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DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

BULLETIN 515

RESULTS OF SPIRIT LEVELING IN PENNSYLVANIA

1899 TO 1911, INCLUSIVE

R. B. MARSHALL, CHIEF GEOGRAPHER

WORK DONE IN COOPERATION WITH THE STATE

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

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GEOLOGICAL SURVEY BENCH MARKS.

A, Tablet used in cooperating States. The State name is inserted at *G*.
B and *D*, Copper temporary bench mark, consisting of a nail and copper washer.
A, *C*, and *E*, Tablets for stone or concrete structures.
F, Iron post used where there is no rock.

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RESULTS OF SPIRIT LEVELING IN PENNSYLVANIA, 1899 TO 1911, INCLUSIVE.

R. B. MARSHALL, Chief Geographer.

INTRODUCTION.

Cooperation.—Equal allotments of funds for the work were made by the United States Geological Survey and the Topographic and Geological Survey Commission of Pennsylvania, of which George W. McNees was chairman in 1899, 1900, and 1905 to 1911, inclusive, and J. N. Pew was chairman from 1901 to 1904, inclusive.

Previous publication.—The results of spirit leveling previously published in Bulletin 288, containing descriptions and elevations of bench marks established in Pennsylvania from 1899 to 1905, inclusive, and based on the 1903 adjustment, have been corrected to agree with the 1907 adjustment of precise leveling of the Coast and Geodetic Survey and are here republished, together with all results of spirit leveling by the United States Geological Survey since 1905. The elevations are likely to be changed but slightly by any future adjustment.

Personnel.—The field work from 1899 to 1906, inclusive, was done under the direction of H. M. Wilson, geographer, and that from 1907 to 1911, inclusive, was done under Frank Sutton, geographer. The work since January, 1908, was done under the general direction of R. B. Marshall, chief geographer. Credit is given in the heading of each list to the different levelmen. The office work of computation, adjustment, and preparation of lists was done mainly by S. S. Gannett, geographer, under the general direction of E. M. Douglas, geographer.

Classification.—The elevations are classified as precise or primary, according to the methods employed in their determination. The former are determined by lines of levels run either in both forward and backward directions or by simultaneous double-rodded lines, a high-grade instrument being used and special precautions being taken in observations and reduction to correct errors and make the line continuously good throughout. The latter or primary levels are determined with the Y level, precautions being taken against only the principal errors and the levels being run mostly in circuits of single

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lines. The allowable limit of error observed on the precise work already done by the Geological Survey in this State is represented in feet by $0.03\sqrt{D}$ and that for the primary work by $0.05\sqrt{D}$, in which D is the length of circuit in miles.

Bench marks.—The standard bench marks are of two forms. The first form is a circular bronze or alluminum tablet (*C* and *E*, Pl. I), 3½ inches in diameter and ¼ inch thick, having a 3-inch stem, which is cemented in a drill hole in solid rock in the wall of some public building, a bridge abutment, or other substantial masonry structure. The second form (*F*, Pl. I), used where masonry or rock is not available, consists of a hollow wrought-iron post 3½ inches in outer diameter and 4 feet in length. The bottom is spread out to a width of 10 inches in order to give a firm bearing on the earth. A bronze or aluminum-bronze cap is riveted over the top of the post which is set about 3 feet in the ground. A third style of bench mark, with abbreviated lettering (*B* and *D*, Pl. I), is used for unimportant points. This consists of a special copper nail 1½ inches in length driven through a copper washer ⅞ inch in diameter. The tablets as well as the caps on the iron posts are appropriately lettered, and cooperation by States is indicated by the addition of the State name (*G*, Pl. I).

The numbers stamped on the bench marks described in the following pages represent the elevations to the nearest foot as determined by the levelman. These numbers are stamped with $\frac{3}{16}$-inch steel dies on the tablets or post caps, to the left of the word "Feet." The office adjustment of the notes and the reduction to mean sea level datum may so change some of the figures that the original markings are 1 or 2 feet in error. It is assumed that engineers and others who have occasion to use the bench-mark elevations will apply to the Director of the United States Geological Survey, at Washington, D. C., for the adjusted values, and will use the markings as identification numbers only.

Datum.—All United States Geological Survey elevations are referred to mean sea level, which is the level that the sea would assume if the influence of winds and tides were eliminated. This level is not the elevation determined from the mean of the highest and the lowest tides, nor is it the half sum of the mean of all the high tides and the mean of all the low tides, which is called the half-tide level. *Mean sea level is the average height of the water, all stages of the tide being considered.* It is determined from observations made by means of tidal gages placed at stations where local conditions, such as long, narrow bays, rivers, and like features, will not affect the height of the water. To obtain even approximately correct results these observations must extend over at least one lunar month, and if accuracy is desired they must extend over several years. At ocean

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stations the half-tide level and the mean sea level usually differ but little. It is assumed that there is no difference between the mean sea level as determined from observations in the Atlantic Ocean, the Gulf of Mexico, or the Pacific Ocean.

The connection with tidal stations for bench marks in certain areas that lie at some distance from the seacoast is still uncertain, and this fact is indicated by the addition of a letter or word to the right of the word "Datum" on tablets or posts. For such areas corrections for published results will be made from time to time as the precise-level lines of the United States Geological Survey or other Government organizations are extended.

Topographic maps.—Maps of the following quadrangles, wholly or partly in Pennsylvania, have been published by the United States Geological Survey up to July 1, 1912. They may be obtained, except as noted, for 5 cents each or $3 a hundred on application to the Director of the Survey, at Washington, D. C.:

Accident (Md.-W. Va.-Pa.).
Allentown.
Amity.
Andover (Ohio-Pa.).
Barnesboro.
Beaver.
Bedford.
Belair (Md.-Pa.).
Bellefonte.
Blacksville (W. Va.-Pa.).
Bloomsburg.
Bordentown (N. J.-Pa.).[1]
Boyertown.
Brownsville.
Bruceton (W. Va.-Pa.).
Burgettstown.
Butler.
Burlington (Pa.-N. J.).[1]
Camden (N. J.-Pa.-Del.).[2]
Cameron (W. Va.-Ohio-Pa.).
Carlisle.
Carnegie.
Catawissa.
Chambersburg.
Chester (Pa.-Del.-N. J.).[2 3]
Clarion.
Claysville.
Coatesville (Pa.-Del.).
Columbiana (Ohio-Pa.).
Conneaut (Ohio-Pa.).
Connellsville.
Curwensville.
Delaware Water Gap (Pa.-N. J.).
Doylestown (Pa.-N. J.).
Dundaff.
Easton (Pa.-N. J.).
Ebensburg.
Elders Ridge.
Elkland.
Elkton (Md.-Del.-Pa.).
Elmira (N. Y.-Pa.).
Emmitsburg (Md.-Pa.).
Erie.
Everett.
Fairfield.
Fairview.
Flintstone (Md.-W. Va.-Pa.).
Foxburg.
Freeport.
Frostburg (Md.-W. Va.-Pa.)
Gaines (Pa.-N. Y.).
Germantown (Pa.-N. J.).[3]
Gettysburg.
Girard.
Grantsville (Md.-Pa.).
Greensburg.
Hamburg.
Hancock (W. Va.-Md.-Pa.).

[1] Bordentown, Burlington, and Lambertville sheets, on scale of 1:62500, have been reduced and form parts of Trenton sheet, on scale of 1:125000.

[2] Chester and Philadelphia sheets, on scale of 1:62500, have been reduced and form parts of Camden sheet, on scale of 1:125000.

[3] Philadelphia and vicinity map includes Chester, Germantown, Norristown, and Philadelphia sheets.

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Harrisburg.
Harvey Lake.
Havre de Grace (Md.-Pa.).
Hazleton.
Hollidaysburg.
Honesdale.
Honeybrook.
Houtzdale.
Hummelstown.
Huntingdon.
Indiana.
Johnstown.
Kinsman (Ohio-Pa.).
Kittanning.
Lambertville (N. J.-Pa.).[1]
Lancaster.
Latrobe.
Lebanon.
Linesville.
Littleton (W. Va.-Pa.).
Lykens.
Mahanoy.
Mannington (W. Va.-Pa.).
Masontown.
Mercersburg.
Middletown.
Millersburg.
Millerstown.
Morgantown (W. Va.-Pa.).
Neshannock.
New Bloomfield.[4]
Newcastle.
New Cumberland.
New Holland.
New Kensington.
Norristown.[3]
Parkton (Md.-Pa.).
Patton.
Pawpaw (Md.-W. Va.-Pa.).
Philadelphia (Pa.-N. J.).[2 3]
Philadelphia and vicinity (Pa.-N. J.-Del.).[2 3] 20 cents.
Phoenixville.
Pinegrove.
Pittsburgh.
Pittsburgh and vicinity (photolithograph). 50 cents.
Pittston.
Port Jervis (N. Y.-N. J.-Pa.).
Pottsville.
Punxsutawney.
Quakertown.
Reading.
Rogersville.
Rural Valley.
Scranton.
Sewickley.
Shamokin.
Shenango.
Shickshinny.
Slatington.
Smicksburg.
Steubenville (Ohio-W. Va.-Pa.).
Sunbury.
Taneytown (Md.-Pa.).
Tioga.
Trenton (N. J.-Pa.).[1]
Uniontown.
Wallpack (N. J.-Pa.).
Warren (Pa.-N. Y.).
Waynesburg.
Wellsville (Ohio-W. Va.-Pa.).
Wernersville.
West Chester (Pa.-Del.).
Westminster (Md.-Pa.).
Wheeling (W. Va.-Ohio-Pa.).
Wilkes-Barre.
York.
Youngstown (Ohio-Pa.).
Zelienople.

[1] Bordentown, Burlington, and Lambertville sheets, on scale of 1:62,500, have been reduced and form parts of Trenton sheet, on scale of 1:125,000.

[2] Chester and Philadelphia sheets, on scale of 1:62,500, have been reduced and form parts of Camden sheet, on scale of 1:125,000.

[3] Philadelphia and vicinity map includes Chester, Germantown, Norristown, and Philadelphia sheets.

[4] Shows wooded areas.

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PRECISE LEVELING.

Damascus, Milford, and Susquehanna quadrangles.

PIKE AND SUSQUEHANNA COUNTIES.

The elevations in the following list are the result of a line of precise levels run from Binghamton to Poughkeepsie, N. Y. The two sections of this line, Binghamton to Hancock and Hancock to Poughkeepsie, form two links in the net of precise leveling in the United States, 49 and 138 miles in length, respectively.

The New York portion of this line is published in the bulletin of spirit leveling for the State of New York (Bull. 281, U. S. Geol. Survey). The leveling was done during June, July, and August, 1900, by C. H. Semper.

SUSQUEHANNA QUADRANGLE.

Great Bend along Erie Railroad to Lanesboro.

	Feet.
Great Bend, at milepost J. C. 200 D. 224, north-bound track; top of rail...	879.9
Great Bend, 200 feet north of station, in face of southeast foundation stone of railroad water tank; bronze tablet stamped "880 ALBANY 1900"....	880.778
Hickory Grove, 600 feet north of station, top of southeast abutment of iron bridge; bronze tablet stamped "893 ALBANY 1900".....	893.621
Hickory Grove, in front of station, north-bound track; top of rail.....	896.0
Susquehanna, in front of station, north-bound track; top of rail.....	909.9
Lanesboro, 1.3 miles northeast of Susquehanna, long iron bridge over highway and stream, top of south abutment, west side; bronze tablet stamped "955 ALBANY 1900".....	956.139

DAMASCUS QUADRANGLE.

Masthope along Erie Railroad to Westcolang.

Masthope, in front of station, north-bound track; top of rail.....	667.5
Westcolang Park, 100 feet east of station, railroad bridge, top of west abutment, south side; bronze tablet stamped "665 ALBANY 1900".....	665.618

MILFORD QUADRANGLE.

Lackawaxen to Millrift.

	Feet.
Lackawaxen, in front of station, north-bound track; top of rail.....	646.8
Shohola, between Shohola Glen and store, stone steps opposite east end of station, third from bottom; bronze tablet stamped "648 ALBANY 1900".....	648.992
Parkersglen, in front of station, north-bound track; top of rail.....	626.5
Pond Eddy, in front of station, north-bound track; top rail.....	570.8
Pond Eddy, 0.2 mile east of; 350 feet east of whistle post, cut on south side of railroad, face of rock; bronze tablet stamped "573 ALBANY 1900"..	574.233
Millrift, in front of station, north-bound track; top of rail.....	494.4
Millrift, 0.3 mile east of, long bridge over Delaware River, top of west abutment, south side; bronze tablet stamped "491 ALBANY 1900".....	491.874

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Gillett, Grover, Ralston, Trout Run, and Williamsport quadrangles.

BRADFORD AND LYCOMING COUNTIES.

The elevations in the following list are the Pennsylvania portion of the line of precise leveling run south from Elmira, N. Y., a point on the precise-level line of 1898, and connected at Williamsport, Pa., to a circuit of Pennsylvania Railroad levels from Harrisburg. The latter point is on the Coast and Geodetic Survey transcontinental precise line. This line, 75 miles in length, was involved as a factor in the 1903 adjustment of the precise-level net. The elevations have not been changed by the 1907 and 1912 adjustments.

The usual method of leveling and party outfit was used. The leveling was done in 1899 by C. H. Semper.

GILLETT QUADRANGLE.

New York-Pennsylvania boundary post along Northern Central Railroad to Troy.

	Feet.
State boundary (N. Y.-Pa.), opposite line post; top of rail	1,096.7
Fassett, at road crossing near station; top of rail	1,122.9
Gillett, in front of station; top of rail	1,201.7
Dunning, in front of station; top of rail	1,237.5
Snediker, 50 feet west of railroad, in foundation wall of store and railroad station; bronze tablet stamped "1265 HARRISBURG 1899"	1,265.229
Columbia Crossroads, in front of station; top of west rail	1,130.7
Columbia Crossroads, 1.8 miles south of, top of north wall of culvert and cattle pass, west side of railroad; bronze tablet stamped "1099 HARRISBURG 1899"	1,099.855
Troy, road crossing at cemetery; top of east rail	1,074.6
Troy, in front of station; top of west rail	1,136.1
Troy, 0.2 mile south of station, north side of railroad water tank, in top of coping stone of foundation; bronze tablet stamped "1139 HARRISBURG 1899"	1,139.758

GROVER QUADRANGLE.

Cowley to Roaring Branch.

Cowley, main track, in front of station; top of east rail	1,358.5
Cowley, 0.5 mile south of, in top of coping stone of railroad creek culvert on east side of railroad; bronze tablet stamped "1358 HARRISBURG 1899"	1,358.847
Canton, main track, front of station; top of rail	1,255.2
Canton, 0.4 mile south of, in south abutment of old railroad bridge masonry, 20 feet east of railroad; bronze tablet stamped "1246 HARRISBURG 1899"	1,246.334
Cedar Lodge, at railroad crossing near station; top of rail	1,204.8
Grover, in front of station; top of rail	1,229.4
Penbryn, in front of station; top of east rail	1,223.5
Roaring Branch, 600 feet north of station, east abutment of steel highway bridge, on bridge seat; aluminum tablet stamped "966 HARRISBURG 1899"	966.236
Roaring Branch, in front of station; top of rail	959.3

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RALSTON QUADRANGLE.

Ralston to Marshhill.

	Feet.
Ralston, 0.2 mile north of station, in south abutment, west side of railroad bridge; bronze tablet stamped "851 HARRISBURG 1899"	852.116
Marshhill, in front of station; top of west rail	795.9

TROUT RUN QUADRANGLE.

Bodine to Hepburnville.

Bodine, in front of station; top of rail	760.5
Fields, 0.1 mile north of, in south abutment east side of iron railroad bridge; bronze tablet stamped "732 HARRISBURG 1899"	732.512
Gray, at north end of switch, at road crossing; top of west rail	717.0
Trout Run, in front of station, main track; top of rail	677.9
Powys, in front of station; top of rail	629.7
Powys, 0.7 mile south of, in northwest wing abutment of small creek culvert; aluminum tablet stamped "620 HARRISBURG 1899"	620.554
Cogan Valley, in front of station; top of rail	598.7
Hepburnville, at road crossing near station; top of rail	582.9

WILLIAMSPORT QUADRANGLE.

At Williamsport.

Williamsport, general superintendent's office building, north side of east entrance, on water table; chiseled shelf (Pennsylvania Railroad bench mark, elevation 528.35)	528.50
Williamsport, northwest corner base of Soldiers' monument; chiseled square (Pennsylvania Railroad bench mark 46, elevation 525.04)	525.19
Williamsport, city hall, in front face near main entrance; aluminum tablet stamped "528 HARRISBURG 1899"	528.266

Kinzua, Warren, and Youngsville quadrangles.

WARREN COUNTY.

The elevations in the following list are the Pennsylvania portion of the result of two independent lines of precise leveling run in opposite directions between Salamanca, N. Y., and Irvineton, Pa. A large probable error occasioned the second running, with a result, however, checking to 0.043 foot the original figures. Both lines were run by the same methods as in previous work and with similar party outfits, each being a double-rodded, simultaneous, direct and reverse read line, employing special 10-foot double-faced targeted rods.

The leveling of 1899 was done by E. L. McNair, and that of 1902 by D. H. Baldwin.

KINZUA QUADRANGLE.

Corydon along Pennsylvania Railroad to Tuttletown.

	Feet.
Corydon, 0.33 mile north of station, at southeast corner of steel bridge over Willow Creek, on foundation coping stone; aluminum tablet stamped "1281 DUNKIRK 1899"	1,281.865
Corydon, in front of station; top of north rail	1,281.2

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	Feet.
Corydon, 2.04 miles south of, southeast corner of bridge 758, on foundation coping stone; chiseled square	1,271.25
Gawanga, in front of station; top of rail	1,267.1
Sugar Run, 1.4 miles south of, southwest corner of bridge 114, on foundation coping stone; aluminum tablet stamped "1253 DUNKIRK 1899"	1,254.403
Sugar Run, in front of station; top of south rail	1,244.9
Sugar Run, 0.13 mile south of station, southwest corner of bridge 113, on parapet coping stone; chiseled square	1,245.20
Kinzua, in front of station; top of south rail	1,237.1
Kinzua, 500 feet south of station, at northwest corner of steel-truss bridge across Kinzua Creek, 2.5 feet west of chord, on foundation coping stone; aluminum tablet stamped "1229 DUNKIRK 1899"	1,230.206
Tuttletown, 400 feet south of, at northeast corner of four-span bridge over Allegheny River, on parapet coping stone; chiseled square	1,232.1

WARREN QUADRANGLE.

Great Bend to Irvineton.

Great Bend, at flag crossing; top of south rail	1,222.7
Great Bend, 0.80 mile southwest of, northeast corner of bridge, on foundation stone; chiseled square	1,221.2
Hemlock, at flag crossing; top of rail	1,208.4
Hemlock, 0.2 mile southwest of, at northwest corner of steel-girder bridge 110, 5 inches from bedplate, on foundation coping stone; aluminum tablet stamped "1205 DUNKIRK 1899"	1,205.768
Glade, in front of station; top of southeast rail	1,199.2
Struthers, in front of station; top of north rail	1,191.9
Warren, 300 feet south of station, at northwest corner of double-track steel-truss bridge 54 over Allegheny River, on coping of parapet wall; aluminum tablet stamped "1193 DUNKIRK 1899"	1,193.485
Warren, at station, in doorsill of waiting room; copper plug (Pennsylvania Railroad bench mark 33)	1,194.813
Starbrick crossing; top of south rail	1,189.5
Jackson crossing, 650 feet east of, southwest corner of bridge 53, coping stone; copper plug (Pennsylvania Railroad bench mark 37)	1,180.778
Jackson crossing; top of south rail	1,181.5
Irvineton, 1.48 miles east of, southwest corner of small girder bridge 52, top of second step from top of wing wall; copper plug (Pennsylvania Railroad bench mark 38)	1,166.172

YOUNGSVILLE QUADRANGLE.

Near Irvineton.

Irvineton, 0.75 mile east of, southeast corner of open drain, on foundation stone; copper plug (Pennsylvania Railroad bench mark 39)	1,168.951
Irvineton, 0.24 mile east of station, east abutment of double-track steel-girder bridge 50 across Brokenstraw Creek, north side of middle girder, on foundation coping stone; aluminum tablet stamped "1167 DUNKIRK 1899"	1,167.948

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Franklin, Oil City, Tidioute, Tionesta, and Youngsville quadrangles.

FOREST, VENANGO, AND WARREN COUNTIES.

The elevations in the following list are the result of a line of precise levels run from Irvineton to Franklin.

The leveling was done in 1899 by E. L. McNair.

YOUNGSVILLE QUADRANGLE.

Irvineton to Thompson.

	Feet.
Irvineton, 0.24 mile east of station, east abutment of double-track steel-girder bridge 50 across Brokenstraw Creek, north side of middle girder, on foundation coping stone; aluminum tablet stamped "1167 DUNKIRK 1899"	1,167.948
Thompson, 0.12 mile northeast of station, at east end of south abutment of small girder bridge 85A, on coping stone; aluminum tablet stamped "1135 DUNKIRK 1899"	1,136.118
Thompson, in front of station; top of west rail	1,139.8

TIDIOUTE QUADRANGLE.

Cobham to Jamison.

Cobham, in front of flag station; top of east rail	1,131.4
Tidioute, in front of Pennsylvania Railroad station; top of north rail	1,110.5
Tidioute, 100 feet east of station, 270 feet south of center of track at north end of suspension bridge across Allegheny River, on face of west cable anchor; aluminum tablet stamped "1116 DUNKIRK 1899"	1,116.939
Trunkeyville, in front of flag station; top of east rail	1,096.0
Trunkeyville, 350 feet south of flag post, 45 feet west of center of main track, 4.5 feet south from large chestnut tree, in large bowlder; aluminum tablet stamped "1098 DUNKIRK 1899"	1,098.647
Hickory, 0.2 mile north of, at northeast corner of steel truss combination railroad and highway bridge across Allegheny River, on foundation wall; aluminum tablet stamped "1086 DUNKIRK 1899"	1,086.578
West Hickory, in front of station; top of west rail	1,088.6
Dawson, in front of station; top of east rail	1,073.0
Jamison, in front of flag station; top of east rail	1,070.5

TIONESTA QUADRANGLE.

Bench marks near Tionesta.

Tionesta, 180 feet north of station, 70 feet east of main track, at southwest corner of highway bridge across Allegheny River, on coping stone; aluminum tablet stamped "1063 DUNKIRK 1899"	1,064.289
Tionesta, in front of station, main track; top of east rail	1,057.5

OIL CITY QUADRANGLE.

Hunter to Sedgwick.

Hunter, near station, at road crossing; top of west rail	1,058.7
Baum, in front of flag station; top of east rail	1,043.9
President, 0.3 mile north of station, 17.5 feet east of center of track, 2.4 feet below top of rail, top of large bowlder 5 feet high and 12 feet long; aluminum tablet stamped "1042 DUNKIRK 1899"	1,042.696
President, in front of station; top of east rail	1,044.8
Eagle Rock, in front of station; top of east rail	1,043.0

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	Feet.
Riverview, in front of flag station; top of south rail	1,035.9
Oleopolis, 0.3 mile northeast of station, at northwest corner of one-span steel-truss bridge 74, 13 feet north of center of track, on coping stone of abutment wall; aluminum tablet stamped "1030 DUNKIRK 1899"	1,031.339
Oleopolis, in front of station; top of south rail	1,208.1
Walnut, in front of flag station; top of east rail	1,020.6
Rockwood, in front of flag station; top of west rail	1,013.4
Sneily, in front of flag station; top of east rail	1,006.6
South Oil City, 0.4 mile east of railroad station, bridge seat at northeast corner of large three-span steel-truss bridge across Allegheny River, 7 feet north of center of track, 5.1 feet below top of rail and 6 inches from end of chord; aluminum tablet stamped "1009 PITTSBURG 1899"	1,009.664
South Oil City, in front of railroad station; top of north rail	1,006.0
Sedgwick, in front of flag station; top of east rail	999.8

FRANKLIN QUADRANGLE.

Prentice to Franklin.

Prentice, in front of station; top of west rail	990.5
Franklin, 60 feet north of north end of station, 90 feet west of center of track, east abutment of highway bridge across Allegheny River, second step below coping stone at end of south wing wall, 3.4 feet above top of rail; aluminum tablet stamped "987 PITTSBURG 1899"	987.777

Cambridge Springs, Erie, Foxburg, Franklin, Freeport, Kittanning, McKeesport, Meadville, Rural Valley, Sharpsburg, Stoneboro, and Union City quadrangles.

ALLEGHENY, ARMSTRONG, CLARION, CRAWFORD, ERIE, MERCER, AND VENANGO COUNTIES.

The elevations in the following list result from a line of precise levels extending from Erie to Pittsburgh, Pa. The initial bench mark is an aluminum tablet stamped "635 ERIE" in the water table of the northwest corner of the hospital wing of the Soldiers' Home, Erie, the elevation of which was previously determined by primary levels to be 58.588 feet above a bench mark of the army engineers, described as a chisel mark, at southwest corner of foundation of the lighthouse keeper's dwelling. The line extends south over the Pennsylvania Railroad to Leboeuf, thence over the Erie Railroad to Franklin, and from Franklin to Pittsburgh over the Allegheny Valley branch of the Pennsylvania Railroad. The leveling was done in 1899 by C. H. Semper, except the portion from Franklin to Emlenton, which was done by E. L. McNair.

ERIE QUADRANGLE.

Erie along Pennsylvania Railroad to Samson.

	Feet.
Erie Harbor, army engineers' bench mark, southwest corner of foundation of lighthouse keeper's dwelling; chisel mark	577.591
Erie, northwest corner of hospital wing of Soldiers Home, in water table; aluminum tablet stamped "635 ERIE"	636.179
Erie, at junction of Pennsylvania Railroad and Lake Shore and Michigan Southern Railway; top of foundation of water tank, marked "685"	685.01

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	Feet.
Belle Valley, in front of station; top of rail	1,015.5
Belle Valley, 1.1 miles south of, overhead highway bridge, in north end of east side of foundation of bent; aluminum tablet stamped "1103 PITTSBURG 1899"	1,103.430
Langdon, railroad crossing at station, main track; top of rail	1,134.8
Jackson, in front of station, main track; top of rail	1,229.4
Samson, 0.8 mile south of, north end, east side of railroad bridge 8, in top of arch masonry; aluminum tablet stamped "1214 PITTSBURG 1899"	1,215.286
Samson, 0.8 mile south of, bridge 8; copper bolt (Pennsylvania Railroad bench mark No. 85)	1,212.035

UNION CITY QUADRANGLE.

Samson to Millers station.

Samson, 4.3 miles south of, on bridge 14; Pennsylvania Railroad bench mark No. 82	1,191.014
Waterford, in front of station; top of rail	1,192.3
Leboeuf, 1.5 miles west of, in culvert masonry on northwest side of Erie Railroad; aluminum tablet stamped "1193 PITTSBURG 1899"	1,194.210
Mill Village, in front of station; top of rail	1,214.3
Millers, in front of station, main track; top of rail	1,169.8
Millers, 0.9 mile southwest of, in top of southwest end of bridge abutment; aluminum tablet stamped "1148 PITTSBURG 1899"	1,148.237

CAMBRIDGE SPRINGS QUADRANGLE.

Bench marks near Venango.

Cambridge Springs, in front of station; top of rail	1,161.6
Venango, in front of station; top of rail	1,161.1
Venango, 0.8 mile southwest of, in southeast end of bridge abutment; bronze tablet stamped "1128 PITTSBURG 1899"	1,128.717

MEADVILLE QUADRANGLE.

Saegerstown along Erie Railroad to Cochranton.

Saegerstown, in front of station; top of rail	1,114.0
Saegerstown, 0.7 mile south of, in north abutment, east side of railroad bridge; bronze tablet stamped "1109 PITTSBURG 1899" (reported to have been removed)	1,109.236
Meadville, in front of station; top of rail	1,078.6
Meadville, 1.8 miles south of, north end of culvert abutment, west side of railroad; bronze tablet stamped "1071 PITTSBURG 1899"	1,072.114
Buchanan, in front of station; top of rail	1,073.3
Shaws, in front of station; top of east rail	1,090.5
Cochranton, 1,000 feet northwest of, in abutment of railroad iron bridge, north end, east side; bronze tablet stamped "1062 PITTSBURG 1899" [1]	1,062.391
Cochranton, in front of station; top of rail	1,062.3

STONEBORO QUADRANGLE.

At Carlton.

Carlton, in front of station; top of west rail	1,045.3

[1] Bench mark has been moved: elevation doubtful.

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FRANKLIN QUADRANGLE.

Utica along Erie Railroad to Franklin.

	Feet.
Utica, in front of station; top of rail	1,033.6
Utica, 300 feet south of station, in east abutment, north side of highway bridge; bronze tablet stamped "1038 PITTSBURG 1899"	1,038.323
Takitezy, at railroad crossing by station; top of rail	1,017.8
Sugar Creek, 1,200 feet southeast of, in northeast end of abutment of railroad bridge; bronze tablet stamped "1013 PITTSBURG 1899"	1,013.628
Franklin, in northeast corner of belt course of Erie station; aluminum tablet stamped "989 PITTSBURG 1899"	989.349

Franklin along Pennsylvania Railroad to Brandon.

Franklin, Pennsylvania Railroad station, 90 feet west of center of track, at point 60 feet north of north end of station, in second step below coping-stone at end of south wing wall of east abutment of road bridge across Allegheny River; aluminum tablet stamped "987 PITTSBURG 1899"	987.777
Franklin, in front of Pennsylvania Railroad station; top of west rail	984.3
Cochran, in front of station; top of south rail	978.1
Astral flag station; top of rail	973.8
East Sandy, 650 feet north of station; coping stone of abutment at southwest corner of 2-span steel-truss bridge across Sandy Creek, 1.2 feet below top rail, 10.5 feet west of center of track; bronze tablet stamped "970 PITTSBURG 1899"	970.905
East Sandy, in front of station; top of east rail	970.5
Foster, in front of flag station; top of north rail	965.3
Brandon, in front of station; top of south rail	957.5
Brandon, 1.3 miles south of station, face of rock ledge 20 feet southeast of center of track, 3 feet above top of rail, 1,100 feet south of milepost 112; bronze tablet stamped "957 PITTSBURG 1899"	957.715

FOXBURG QUADRANGLE.

Kennerdell along Pennsylvania Railroad to Catfish Run.

Kennerdell, in front of station; top of west rail	944.0
Kennerdell, 1.5 miles south of station; 300 feet west of milepost 106, large bowlder 10 feet north of center of track, 2.4 feet above rail; bronze tablet stamped "941 PITTSBURG 1899"	942.373
St. George, 0.3 mile south of, 150 feet south of whistling post, in rock on west side of rail; bronze tablet stamped "925 PITTSBURG 1899"	926.181
Rockland, 0.1 mile south of, in northwest wing of abutment of bridge over small creek, 600 feet south of station on west side of railroad; bronze tablet stamped "919 PITTSBURG 1899"	920.792
Wood Hill, in front of station sign; top of west rail	917.4
Shippingport crossing; top of east rail of middle crossing	913.1
Dotter, 600 feet north of, in north abutment of west wing of railroad bridge; bronze tablet stamped "905 PITTSBURG 1899"	906.125
Dotter, in front of station; top of east rail	910.9
Emlenton, 0.4 mile south of, in wing wall of railroad bridge abutment, south end, west side; bronze tablet stamped "898 PITTSBURG 1899"	899.079
Emlenton, at road crossing at station; top of south rail	901.2
Foxburg, in front of station; top of east rail	891.9
Parker, in top of abutment of road bridge at station, east abutment, south side; bronze tablet stamped "883 PITTSBURG 1899"	884.014
Monterey, in front of station; top of south rail	870.8
Monterey, 900 feet south of station, in bridge abutment, north end, east side; bronze tablet stamped "869 PITTSBURG 1899"	870.043

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	Feet.
Upper Hillville, in front of station; top of south rail	863.7
Lower Hillville, in front of station; top of west rail	860.6
Lower Hillville, 1 mile south of, in top of culvert wall of small stream, northeast side; bronze tablet stamped "855 PITTSBURG 1899"	856.387
Catfish Run, in front of station; top of east rail	854.7

KITTANNING QUADRANGLE.

East Brady along Pennsylvania Railroad to Riverview.

East Brady, in east abutment wing wall of steel highway bridge; bronze tablet stamped "852 PITTSBURG 1899"	852.645
Redbank, in front of station; top of west rail	846.2
Redbank, 600 feet south of station; in north abutment of railroad bridge, west side of abutment; bronze tablet stamped "844 PITTSBURG 1899"	844.746
Riverview, in front of station; top of rail	835.4

Neale along Pennsylvania Railroad to Rosston.

Neale, on last crossing south of station; top of west rail	805.3
Wick City, crossing at pottery works; top of west rail	805.3
Kittanning, in front of station; top of east rail	806.4
Kittanning, on corner of McKain and Vine streets, public school, northwest corner of front face; bronze tablet stamped "803 PITTSBURG 1899"	803.500
Garrett Run, in front of station; top of west rail	796.1
Manorville, in front of station; top of east rail	796.0
Graff, in front of station; top of west rail	790.4
Ford City, in front of station; top of east rail	784.8
Rosston, in front of station; top of west rail	786.6

RURAL VALLEY QUADRANGLE.

Rimer along Pennsylvania Railroad to Cowanshannock.

Rimer, 2 miles south of, in north abutment, west side of iron bridge; bronze tablet stamped "820 PITTSBURG 1899"	820.810
Mahoning, in front of station; top of east rail	818.8
Templeton, in front of station; top of west rail	819.1
Mosgrove, in north abutment, east end of railroad bridge, 900 feet north of station; bronze tablet stamped "806 PITTSBURG 1899"	807.227
Cowanshannock, in front of station; top of east rail	805.4

FREEPORT QUADRANGLE.

Logansport along Pennsylvania Railroad to Valley Camp.

Logansport, in front of station; top of west rail	781.7
Rosston, 0.2 mile south of, in east abutment of bridge over river; bronze tablet stamped "786 PITTSBURG 1899"	785.855
Kelley, in front of station; top of west rail	778.3
White Rock, in front of station, main track; top of east rail	780.6
Donley, in front of station; top of south rail	782.2
Garvers Ferry, in front of station; top of west rail	783.7
McKain, in front of station; top of west rail	776.6
Metcalf, in front of station; top of west rail	773.5
Braeburn, in front of station; top of west rail	759.7
Edgecliff, 1,000 feet south of, in north abutment east side of bridge over creek; bronze tablet stamped "764 PITTSBURG 1899"	763.478
Crag Dell, in front of station; top of west rail	776.2
Valley Camp, in front of station, main track; top of west rail	787.1

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NEW KENSINGTON QUADRANGLE.

Arnold along Pennsylvania Railroad to Sylvan.

	Feet.
Arnold, in front of station, main track; top of west rail	786.0
New Kensington, in front of station; top of west rail	775.0
Parnassus, in front of station; top of west rail	763.0
Logans Ferry, in front of station, north-bound track; top of east rail	755.7
Barking, in front of station, south-bound track; top of east rail	759.0
Blacks Run, 300 feet south of steel railroad bridge over Allegheny River, in face of stone milepost marked "P 13, O. C. 119-5/10"; bronze tablet stamped "770 PITTSBURG 1899." (Reported as having been removed, though shank still remains)	771.194
Hulton, in front of station; top of east rail	776.6
Oakmont, in front of station; top of west rail	763.6
Edgewater, in front of station; top of west rail	753.6
Verona, in front of station; top of west rail	744.8
Sylvan, in front of station; top of west rail	744.1

PITTSBURGH QUADRANGLE.

Sandy Creek along Pennsylvania Railroad to Pittsburgh.

Sandy Creek, in front of station; top of west rail	744.8
Wildwood, in front of station; top of west rail	745.7
Wildwood, doorsill of west door Pennsylvania Water Co. house; copper bolt	748.829
Brilliant, in front of station; top of north rail	746.5
Morningside, in front of station; top of north rail	745.8
Pittsburgh, in front of Butler Street station; top of west rail	742.9
Pittsburgh, in front of Forty-third Street station; top of west rail	730.5
Pittsburgh, south side of Allegheny Avenue, 15 feet west of railroad track; top of curbstone, stamped "B. M."	736.621
Pittsburgh, in foundation of Seventh Avenue Hotel, north side, at main entrance; aluminum tablet stamped "738 PITTSBURG 1899" (reported nearly destroyed, 1908)	738.383

Brownsville, Masontown, Morgantown, Pittsburgh, and Uniontown quadrangles.

WASHINGTON AND WESTMORELAND COUNTIES.

The elevations in the following list result from the Pennsylvania portion of a line of precise levels run between Pittsburgh, Pa., and Grafton, W. Va. The line as run started from bench mark "M" at Grafton, W. Va., on the transcontinental precise-level line of the Coast and Geodetic Survey, a chisel mark on the coping stone at north end of central pier of railroad bridge over Tygart River, and followed the Baltimore & Ohio Railroad to Leith, near Uniontown, Pa., thence over the Pennsylvania Railroad to Pittsburgh. The leveling was done in 1899 by E. L. McNair.

PITTSBURGH QUADRANGLE.

Pittsburgh along Pennsylvania Railroad to Elben.

	Feet.
Pittsburgh, in front of Twenty-eighth Street station; top of south rail	755.6
Benvenue, 0.25 mile west of station, bridge seat at south end of west abutment of girder bridge over Pittsburgh Junction Railway tracks; bronze tablet stamped "818 PITTSBURG 1899"	818.184

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	Feet.
East Liberty, in front of station; top of west rail	913.7
Fifth Avenue, in front of station; top of west rail	919.9
Homewood, in front of station; top of west rail	922.2
Homewood, in doorsill of station; copper bolt (Pennsylvania Railroad bench mark 92)	923.367
Wilkinsburg, in front of station; top of west rail	922.0
Edgewood, in front of station; top of west rail	922.1
Swissvale, in front of station; top of west rail of west track	921.7
Hawkins, in front of station; top of rail	881.1
Braddock station, in doorsill of door to ladies' waiting room; copper bolt (Pennsylvania Railroad bench mark 88)	828.737
Bessemer station, Pennsylvania Railroad, about 1 mile east of, east end of north abutment of double-track bridge of Union Railway over main line of Pennsylvania Railroad, in face of abutment; bronze tablet stamped "760 PITTSBURG 1899"	759.485
Thompson, 0.33 mile south of flag station, at south end of west abutment of Port Perry railroad bridge across Monongahela River; copper bolt (Pennsylvania Railroad bench mark 13)	763.845
Thompson, 125 feet south of flag station, at signal tower, 25 feet west of south-bound track, 4 feet above top of rail, north wing wall of west abutment of double-track truss bridge of Union Railway crossing over tracks of Pennsylvania Railroad; bronze tablet stamped "767 PITTSBURG 1899"	766.866
Thompson, in front of flag station, south-bound track; top of west rail	762.9
Cochran (Duquesne post-office), in front of station, south-bound track; top of east rail	761.1
Dravosburg, in front of station, south-bound track; top of west rail	746.7
Camden, in front of station, north-bound track; top of east rail	753.7
Coal Valley, county bridge over creek; chisled square on coping stone of wall (Pennsylvania Railroad bench mark 19, elevation 736)	736.259
Coal Valley, in front of station, south-bound track; top of west rail	754.2
Wilson, in front of station, south-bound track; top of west rail	756.5
Peters Creek, in front of flag station, south-bound track; top of east rail	752.5
Peters Creek, 0.25 mile south of flag station, 2-span stone arch culvert, first step below coping stone at southeast corner, 12 feet below top of rail; bronze tablet stamped "740 PITTSBURG 1899"	739.395
Blair, in front of flag station, north-bound track; top of east rail	757.5
Central Park, north-bound track at road crossing; top of west rail	754.8
East Elizabeth, in front of station, north-bound track; top of west rail	750.0
West Elizabeth, in front of station, north-bound track; top of east rail	746.3
Jones flag station, north-bound track; top of east rail	754.2
Walton flag station, south-bound track; top of east rail	756.3
Elben, in front of station, north-bound track; top of west rail	751.5

BROWNSVILLE QUADRANGLE.

Elben along Pennsylvania Railroad to Tippecanoe.

Shire Oaks, in front of station, north-bound track; top of west rail	750.0
Coal Bluff, in front of station, south-bound track; top of east rail	750.6
Huston Run, in front of station, north-bound track; top of west rail	754.7
Courtney, in front of station; top of east rail	759.0
Riverview; 0.3 mile north of flag station, south end of large stone-arch culvert, west side of track, second step below coping stone, 2.5 feet below top of rail; bronze tablet stamped "753 PITTSBURG 1899"	752.988

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	Feet.
Riverview, in front of flag station; top of east rail	755.2
Monongahela City, in front of station; top of rail	753.7
Black Diamond, at flag station; top of west rail	753.8
Baird, 150 feet south of flag station, signpost, second step below coping stone of stone-arch culvert, north side of track, 4.8 feet below top of rail; bronze tablet stamped "755 PITTSBURG 1899"	754.839
Baird, in front of flag station; top of east rail	759.9
Webster, in front of station; top of west rail	761.0
West Columbia, in front of flag station; top of west rail	772.8
Bamford, in front of station; top of east rail	763.8
Lock No. 4, on coping near heel of west gate at south end of west lock, on circle; chisel mark	743.522
Lock No. 4; top of west rail	764.6
Charleroi, in front of station; top of west rail	764.0
Charleroi, 0.5 mile south of station, 150 feet south of city pumping station, coping stone at northwest corner of large stone-arch culvert; bronze tablet stamped "760 PITTSBURG 1899"	757.586
Belle Vernon, in front of station; top of east rail	767.1
Dunlevy, in front of flag station; top of west rail	763.3
Allenport, in front of station; top of west rail	764.3
Stockdale, in front of flag station; top of east rail	761.6
Lucyville, in front of station; top of west rail	766.5
Wood Run, in front of flag station; top of west rail	764.8
Wood Run, 0.5 mile south of flag station, bridge seat at east end of north abutment of open culvert, 25 feet south of milepost 47; bronze tablet stamped "764 PITTSBURG 1899"	765.063
Coal Center, in front of station; top of west rail	768.7
California, in front of station; top of east rail	766.2
West Brownsville Junction, in front of station; top of east rail	778.1
West Brownsville Junction, 0.25 mile south of, 4-span truss bridge across Monongahela River, bridge seat at east end of north abutment; bronze tablet stamped "778 PITTSBURG 1899"	777.378
Braznell, in front of flag station; top of east rail	798.6
Grindstone, in front of flag station; top of west rail	825.2
Tippecanoe, in front of flag station; top of west rail	859.2
Tippecanoe, 0.5 mile south of flag station, bridge seat at southwest corner of small girder bridge 15 feet long over roadway at south end of truss road bridge over Redstone Creek; bronze tablet stamped "868 PITTSBURG 1899"	867.240

MASONTOWN QUADRANGLE.

Smock along Pennsylvania Railroad to Waltersburg.

Smock, in front of station; top of east rail	877.5
Rothbuck, in front of station; top of west rail	892.1
Waltersburg, in front of flag station; top of west rail	900.0

Fairchance along Baltimore & Ohio Railroad to Gans.

Fairchance, 550 feet north of Baltimore & Ohio Railroad station, bridge seat at corner of small girder bridge 338; aluminum tablet stamped "1065 PITTSBURG 1899"	1,064.878
Fairchance, in front of station; top of west rail	1,059.5
Smithfield, in front of station; top of west rail	985.2
Outcrop, in front of flag station; top of east rail	1,067.1

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	Feet.
Outcrop, 0.2 mile south of flag station, northeast of Baltimore & Ohio Railroad tunnel, east of track, 3.7 feet above rail; bronze tablet stamped "1084 PITTSBURG 1899" [1]	1,083.507
Summit of grade; top of rail	1,089.5

UNIONTOWN QUADRANGLE.

Waltersburg along Pennsylvania Railroad to Uniontown.

Upper Middletown, 675 feet north of flag station, in face of rock in place, 26 feet east of center of track, 4.2 feet higher than top of rail; bronze tablet stamped "920 PITTSBURG 1899"	919.449
Upper Middletown, at flag station; top of rail	913.5
Vance Mill Junction, in front of station; top of east rail	927.0
Redstone Junction, in front of station; top of east rail	956.1
Uniontown, courthouse, corner of Main and Court Streets, foundation wall 4 feet above ground between Main Street entrance and southwest corner building; aluminum tablet stamped "999 PITTSBURG 1899"	998.556

Uniontown along Baltimore & Ohio Railroad to Fairchance.

Uniontown, in front of Pennsylvania Railroad station; top of east rail	980.4
Leith, in front of Pennsylvania Railroad station; top of west rail	1,005.6
Hutchinson, in front of flag station; top of east rail	1,105.9
Brownfield, in front of station; top of west rail	1,136.2
Oliphant, in front of flag station; top of west rail	1,170.3
Johnston, in front of flag station; top of west rail	1,098.3

MORGANTOWN QUADRANGLE.

Gans along Baltimore & Ohio Railroad to State line.

Gans, in front of station; top of west rail	1,009.1
Atchison, in front of station; top of east rail	938.7
Cheat Haven, in front of station; top of west rail	835.0
Point Marion, 0.25 mile north of station, coping stone at east end of north pier of 6-span truss and girder bridge 356 across Cheat River; bronze tablet stamped "813 PITTSBURG 1899"	812.527
Point Marion, in front of station; top of west rail	814.9
State line (W. Va.-Pa.); top of east rail	814.9

Corry, Union City, and Youngsville quadrangles.

ERIE AND WARREN COUNTIES.

The elevations in the following list are the result of a line of precise levels run from Leboeuf to Irvineton.

The leveling was done in 1902 by D. H. Baldwin.

UNION CITY QUADRANGLE.

Leboeuf east along Erie Railroad to Union City, thence along Pennsylvania Railroad to Elgin.

	Feet.
Leboeuf, 1.5 miles west of, north side of tracks, arch culvert, on coping stone; aluminum tablet stamped "1193 PITTSBURG 1899"	1,194.210
Leboeuf, 1 mile southwest of, near railroad crossing, southwest corner of highway bridge, on foundation stone; chiseled square	1,201.31
Union City, 1.69 miles west of, on Erie Railroad, on top of stone milepost 74; chiseled square	1,259.60

[1] Reported as having been disturbed by reconstruction of bridge; may be several feet lower than here given.

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	Feet.
Union City, 0.64 mile west of, Erie Railroad, on top of stone milepost 73; chiseled square	1,284.37
Union City, in front of Erie station; top of north rail	1,299.9
Union City, 0.31 mile east of Erie station, top of stone milepost 72; chiseled square	1,302.92
Union City, 0.78 mile east of Pennsylvania Railroad station, bridge 27, northeast corner, on parapet wall; chiseled square	1,289.13
Union City, 1.97 miles east of, northeast corner of bridge 29, on foundation stone; chiseled square	1,302.06
Union City, 2.22 miles east of, east corner of bridge 30, on foundation wall; copper bolt (Pennsylvania Railroad bench mark No. 72)	1,307.892
Reilly, flag road crossing; top of north rail	1,346.1
Elgin, 1.09 miles west of, northwest corner of bridge 32, on parapet stone; chiseled square (Pennsylvania Railroad bench mark No. 71)	1,369.58
Elgin, 0.13 mile west of, northeast corner bridge 33, on foundation stone; copper bolt (Pennsylvania Railroad bench mark No. 70)	1,379.496
Elgin, 330 feet west of station, north of track, store of D. S. Lyon, southeast corner of foundation wall; aluminum tablet stamped "1382 PITTSBURG 1902"	1,381.794
El~'n, in front of station; top of north rail	1,386.4

CORRY QUADRANGLE.

Lovell to Horn.

Lovell, 0.84 mile west of, northeast corner of bridge 34, on foundation wall; copper bolt (Pennsylvania Railroad bench mark 69)	1,366.676
Lovell, in front of station; top of north rail	1,374.2
Lovell, 0.16 mile east of, southwest corner of bridge 37, on foundation stone; copper bolt (Pennsylvania Railroad bench mark 68)	1,372.610
Corry, 2.68 miles west of, southeast corner of bridge 38, on foundation stone; copper bolt (Pennsylvania Railroad bench mark 67)	1,382.199
Corry, 1.13 miles west of, northwest corner of bridge 40, bottom of coping stone of wing wall; copper bolt (Pennsylvania Railroad bench mark 66)	1,412.769
Corry, in front of station; top of north rail	1,429.1
Corry, 0.05 mile southwest of station, northeast corner of Phoenix Hotel, on base water table; aluminum tablet stamped "1432 PITTSBURG 1902"	1,432.341
Colza, 0.34 mile west of, southeast corner of bridge 41, on top of foundation wall; copper bolt (Pennsylvania Railroad bench mark 64)	1,397.526
Colza, in front of station; top of north rail	1,400.7
Roach, in front of section house; top of north rail	1,381.2
Roach, 0.24 mile east of, southwest corner of bridge 42 (large steel-truss bridge), on parapet wall; chiseled square (Pennsylvania Railroad bench mark 62)	1,384.170
Spring Creek, in front of station; top of north rail	1,395.5
Spring Creek, 100 feet northeast of station, southwest corner of Donaldson Bros. general store, in water table; aluminum tablet stamped "1406 PITTSBURG 1902"	1,405.594
Spring Creek, 0.26 mile east of, south side of track, on coping stone at culvert; chiseled square (Pennsylvania Railroad bench mark 58)	1,390.04
Spring Creek, 0.70 mile east of, west side of open culvert, north side of track, on foundation stone; copper bolt (Pennsylvania Railroad bench mark 57)	1,394.893
Spring Creek, 2.09 miles north of, northeast corner of girder Bridge 42½, on wing wall; copper bolt (Pennsylvania Railroad bench mark 56)	1,375.846
Horn, 0.17 mile west of, southwest corner small girder bridge, on foundation stone; copper bolt (Pennsylvania Railroad bench mark 55)	1,366.593
Horn, flag crossing; top of north rail	1,372.8

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YOUNGSVILLE QUADRANGLE.

Horn to Irvineton.

	Feet.
Horn, 1.18 miles north of, south end of box culvert on coping stone; copper bolt (Pennsylvania Railroad bench mark 54)	1,322.334
Quarry, flag crossing; top of north rail	1,328.7
Garland, in front of station, main track; top of south rail	1,308.8
Garland, 1.12 miles east of, southwest corner of bridge over Blue Eye Creek, on foundation stone; copper bolt (Pennsylvania Railroad bench mark 51)	1,285.041
Pittsfield, 1.83 miles west of, at southwest corner of bridge, on top of foundation wall; copper bolt (Pennsylvania Railroad bench mark 50)	1,264.709
Pittsfield, 0.52 mile west of, large steel through-truss bridge over creek, southeast corner of foundation stone; bronze tablet stamped "1244 PITTSBURG 1902"	1,244.249
Pittsfield, in front of station; top of north rail	1,240.6
Pittsfield, 0.13 mile east of, northwest corner of bridge 46, on foundation wall; chiseled square (Pennsylvania Railroad bench mark 47)	1,237.68
Pittsfield, 0.75 mile east of, southwest corner of small bridge, on foundation wing wall; copper bolt (Pennsylvania Railroad bench mark 46)	1,231.197
Youngsville, 0.86 mile west of, southwest corner of bridge 47, on foundation wall; copper bolt (Pennsylvania Railroad bench mark 45)	1,221.601
Youngsville, 0.32 mile west of, southwest corner of 6-span girder bridge over Brokenstraw Creek; copper bolt (Pennsylvania Railroad bench mark 48)	1,207.025
Youngsville, 0.15 mile west of, northeast corner of Dunkirk, Allegheny Valley & Pittsburg Railroad bridge, on projection of bottom foundation stone of pier; chiseled square (Pennsylvania Railroad bench mark 43)	1,211.305
Youngsville, in front of station; top of rail	1,210.8
Youngsville, in front of Dunkirk, Allegheny Valley & Pittsburg Railroad station; top of north rail	1,205.8
Irvineton, 0.70 mile west of, southwest corner of bridge 49, on foundation wall; chiseled square (Pennsylvania Railroad bench mark 42)	1,173.032
Irvineton, in front of station; top of south rail	1,167.3
Irvineton, 0.24 mile east of station, east abutment of double-track steel-girder bridge 50 across Brokenstraw Creek, north side of middle girder, on bridge seat; aluminum tablet stamped "1176 PITTSBURG 1899"	1,167.948

PRIMARY LEVELING.

Elkland, Gaines, Galeton, and Tioga quadrangles.

TIOGA AND POTTER COUNTIES.

The following elevations are based upon bench marks at Corning and Addision, N. Y., on the precise-level line from Dunkirk to Albany, N. Y. The leveling was done in 1899 by C. H. Semper and Robert Coe.

ELKLAND QUADRANGLE.

Addison, N. Y., south along Buffalo & Susquehanna Railroad to Elkland, Pa., thence west via Academy Corners to Westfield.

	Feet.
Elkland, on west Main Street, in front face of Pattison Bank; tablet stamped "1134 HARRISBURG 1899"	1,134.432
Academy Corners, in southeast corner of district schoolhouse; tablet stamped "1216 HARRISBURG 1899"	1,216.725

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	Feet.
Knoxville, in about the middle of foundation of chimney on residence of H. I. Brewster, on south side of East Main Street, being the third building from corner of Main and Water Streets; aluminum tablet stamped "1239 HARRISBURG 1899"	1,240.368
Academy Corners south along highways to Little Marsh, thence southeast to Middlebury Center.	
Little Marsh, at east end of village, in top of third stone from east end of north abutment of iron highway bridge over Crooked Creek; bronze tablet stamped "1392 HARRISBURG 1899"	1,393.184
Middlebury Center, in top stone at south end of west pier of iron highway bridge over Crooked Creek; bronze tablet stamped "1149 HARRISBURG 1899"	1,150.004
Gaines east along Buffalo & Susquehanna Railroad and New York Central & Hudson River Railroad to Stokesdale, thence north along latter to Middlebury Center.	
Ansonia, on north side of east abutment of highway bridge over Marsh Creek 200 feet west of Fall Brook Railway, in top of bridge seat stone; bronze tablet stamped "1136 HARRISBURG 1899"	1,136.884
Stokesdale south along New York Central & Hudson River Railroad to Wellsboro (single-spur line).	
Wellsboro, bronze tablets in stone monuments set in public square as meridian marks; stamped "1308 HARRISBURG 1899"—	
North monument (about 7 feet from Central Avenue and 42 feet from Main Street[a]	1,308.638
South monument (about 13 feet from Pearl Street and 26 feet from Charles Street[a]	1,309.305
TIOGA QUADRANGLE.	
Elkland east along New York Central & Hudson River Railroad to Lawrenceville, thence north to Corning.	
Nelson, in southeast corner of Nelson schoolhouse; tablet stamped "1077 HARRISBURG 1899"	1,077.978
Lawrenceville, at northwest corner of Main and Cowanesque Streets, in top foundation stone on south side near southeast corner of building; aluminum tablet stamped "996 HARRISBURG 1899"	996.792
Middlebury Center southeast along highway to East Charleston, thence north to Mansfield.	
East Charleston, at northwest corner of brick residence of Seymour Whitney, in west face of foundation; aluminum tablet stamped "1656 HARRISBURG 1899"	1,656.891
Covington, in west face of foundation near northwest corner of I. O. O. F. hall, being third building south of State Street, on east side of Williams Street; bronze tablet stamped "1196 HARRISBURG 1899"	1,197.015
Mansfield, bronze tablets set in stone monuments on the grounds of the Mansfield State Normal School for meridian marks—	
North monument marked "1207 HARRISBURG 1899"	1,207.706
South monument marked "1196 HARRISBURG 1899"	1,196.804

[a] Elevation of these bench marks doubtful.

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Mansfield north along Erie Railroad to Tioga.

	Feet.
Tioga, 2.5 miles south of; top of coping stone at west end of north abutment of steel-plate girder railroad bridge over Mill Creek	1,062.13
Tioga, in front face of buttress on south side of south entrance of St. Andrews Episcopal Church; bronze tablet stamped "1036 HARRISBURG 1899"	1,037.041

Southeast along Mill Creek to Painter Run (spur line).

Painter Run, in south face of foundation near southwest corner of Free Methodist Church, at forks of road where signboard reads "Summit 6 miles;" aluminum tablet stamped "1257 HARRISBURG 1899"	1,258.241

Middlebury Center northeast along New York Central & Hudson River Railroad to Tioga.

Crooked Creek, 1.25 miles north of, about 1,800 feet south of milepost 85–86, on west side of north abutment of small bridge; top of coping stone	1,103.80
Hammond, 0.75 mile north of, about 600 feet north of milepost 83–88, at west end of north abutment of small bridge; top of coping stone	1,075.52

Tioga north along Erie Railroad to Lawrenceville.

Tioga, near Erie Railroad station, at north end of west abutment of highway bridge over Tioga River; top of coping stone	1,038.41
Lawrenceville, south end of east abutment of highway bridge over Tioga River, near railroad station; top of coping stone	993.43

Tioga Junction east along Erie Railroad to Jackson Summit (single-spur line).

Jackson Summit, in north face of foundation near northeast corner of residence of O. B. Morrill, nearly opposite Erie Railroad station; bronze tablet stamped "1585 HARRISBURG 1899"	1,586.080

GAINES QUADRANGLE.

Westfield west along New York Central & Hudson River Railroad to point 2.5 miles west of Mills.

Westfield, at corner of Main and Church streets, in east face of top foundation stone at northeast corner of brick building; aluminum tablets tamped "1372 HARRISBURG 1899"	1,372.510
Harrison Valley, in south face of top foundation stone at the southeast corner of brick building owned by G. E. and D. T. Stone; bronze tablet stamped "1618 HARRISBURG 1899"	1,619.263
Mills, 2.5 miles west of, in top of cornerstone on north side of east abutment of bridge about 1,100 feet east of milepost 109–4; bronze tablet stamped "2022 HARRISBURG 1899"	2,022.877

Westfield south along Buffalo & Susquehanna Railroad to Gaines, thence west to West Pike (single-spur line).

Sabinsville, at north end of village, in top of cornerstone on north side of east abutment of highway bridge over Mill Creek; bronze tablet stamped "1601 HARRISBURG 1899"	1,602.209
Gaines, at southeast corner of Hotel Vermilyea, in south face of foundation stone; bronze tablet stamped "1294 HARRISBURG 1899"	1,294.945
West Pike, in top of stone at north end of west abutment of steel railroad bridge over Genesee Fork of Pine Creek; a square hole	1,461.97

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Gaines northwest along highway to Sunderlinville (single-spur line).

	Feet.
Sunderlinville, at the southwest corner of forks of road, northwest corner of building used as hotel, in west face of foundation stone; aluminum tablet stamped "1738 HARRISBURG 1899"	1,739.003

GALETON QUADRANGLE.

At Galeton.

Galeton, in window sill on east end near southeast corner of building used as general office of Buffalo & Susquehanna Railroad; aluminum tablet stamped "1330 HARRISBURG 1899"	1,330.778

Sheffield and Warren quadrangles.

WARREN COUNTY.

For additional elevations on Warren quadrangle refer to "Precise leveling." The leveling was done in 1905 by J. H. Wetzel.

WARREN QUADRANGLE.

Warren north along Dunkirk, Allegheny Valley & Pittsburgh Railroad to Fentonville, N. Y.

	Feet.
Warren, at street crossing, Dunkirk, Allegheny Valley & Pittsburgh Railroad; top of rail	1,209.4
North Warren, road crossing at station; top of rail	1,218.5
Warren Asylum, at north side of railroad entrance to powerhouse, west side of building, on window sill; bronze tablet stamped "1225 ADJ 1903"	1,224.538
Russell, near station, at northeast wing wall of covered highway bridge over Conewango Creek; bronze tablet stamped "1237 ADJ 1903"	1,237.460
Ackley, road crossing at station; top of rail	1,238.8
Ackley, 600 feet west of station, southeast bridge seat of highway and trolley bridge over Conewango Creek; bronze tablet stamped "1241 ADJ 1903"	1,240.743
Ackley, north end of siding at switch; top of rail	1,248.5

Russell east along highway to Corydon.

Russell, 4 miles east of, southeast bridge seat of wooden bridge over Ackley Run; bronze tablet stamped "1519 ADJ 1903"	1,519.282
Russell, 6.5 miles east of, in southeast foundation stone of Hiram Lonsburry's residence; bronze tablet stamped "2097 ADJ 1903"	2,096.602

Russell northwest along highway to Marshs Corners, thence south to Putnamville, thence southeast to mouth of Rhimes Run.

Russell, 4 miles northwest of, at Marshs Corners, in northwest foundation stone of Herbert Philips's residence; bronze tablet stamped "1548 ADJ 1903"	1,547.612
Putnamville, 1,300 feet east of schoolhouse, in northwest foundation stone of Fletcher's frame residence; bronze tablet stamped "1663 ADJ 1903"	1,662.580

Warren southeast along Pennsylvania Railroad to Tiona and return.

Warren, 2 miles southeast of; railroad bench mark on rock	1,218.84
Stoneham; railroad bench mark 28 (description not given)	1,304.35
Stoneham, road crossing; top of rail	1,342.7
Stoneham station, 150 feet north of, at west entrance of stone building of Elk Tanning Co., in stone doorsill; bronze tablet stamped "1358 ADJ 1903"	1,357.971
Clarendon, railroad crossing; top of rail	1,391.5

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SHEFFIELD QUADRANGLE.

At Tiona.

	Feet.
Tiona, 600 feet north of station, in southeast bridge seat of iron bridge; aluminum tablet stamped "1358 ADJ 1903"	1,358.305

Erie, Fairview, and Girard quadrangles.

CRAWFORD AND ERIE COUNTIES.

The elevations in the following list are based on an aluminum tablet stamped "635 ERIE" placed in the Soldiers' Home, at Erie, Pa., the elevation of which is now accepted as 636.179 feet above mean sea level. This is the initial bench mark for the precise-level line run south to Pittsburgh, and was set by primary leveling from an army engineer's bench mark, consisting of a chisel mark in the southwest corner of the foundation of the lighthouse keeper's dwelling at Erie, the elevation of which is now accepted as 577.591 feet. For additional elevations in the Erie quadrangle refer to the list under "Precise leveling."

The leveling was done in 1899 by William Crennel.

ERIE QUADRANGLE.

Godard west along highway to Fairview, thence northeast along Lake Shore & Michigan Southern Railway to Erie.

	Feet.
Sterrettania, in southeast corner of foundation of Cook's flouring mill; aluminum tablet stamped "904 ERIE"	905.306
Erie, in water table northwest corner of hospital wing of Soldiers' Home; aluminum tablet stamped "635 ERIE"	636.179

FAIRVIEW QUADRANGLE.

Fairview west along Lake Shore & Michigan Southern Railway to State line.

Fairview, in southwest corner of foundation of store owned by David Yeagle; aluminum tablet stamped "795 ERIE"	796.283

GIRARD QUADRANGLE.

Near Girard Junction.

Girard Junction, 6.5 miles west of, southeast corner of coping of west abutment of culvert under Lake Shore & Michigan Southern Railway, at crossing; bench mark, stamped "Br # 8"	649.72
State line (Pa.–Ohio), on south side of pedestal of monument, 1.25 miles north of Lake Shore & Michigan Southern Railway; aluminum tablet stamped "635 ERIE"	635.595

State Line south-southeast over highway via Tracy to Conneautville, thence northeast to Hickernell, thence north to Girard.

West Springfield, in foundation west side of A. J. Thomas's barn; aluminum tablet stamped "712 ERIE"	712.772
Tracy, 1 mile south of and just south of creek bridge, in northwest corner of foundation of house owned by Mr. Culberson; aluminum tablet stamped "952 ERIE"	953.120
Beaver Center, store owned by L. I. Fuller, in northeast corner of foundation; aluminum tablet stamped "1029 ERIE"	1,030.316

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	Feet.
Conneautville, in southeast corner of foundation of bank building; aluminum tablet stamped "948 ERIE"	949.142
Hickernells, on northeast corner of foundation of post office; bronze tablet stamped "1127 ERIE"	1,128.134
Pont, in front foundation of United Brethren Church; bronze tablet stamped "1090 ERIE"	1,090.699
Platea, in southwest corner of foundation of Methodist Church; bronze tablet stamped "876 ERIE"	876.400
Girard, Dobler's farm; northwest corner of stone flag foundation of fountain and watering trough	799.22

Coatsville, Honey Brook, Phoenixville, and West Chester quadrangles.

BERKS, CHESTER, DELAWARE, AND LANCASTER COUNTIES.

The elevations in the following list are based upon various bench marks along precise-level lines of the Pennsylvania Railroad.

The leveling in the West Chester quadrangle was done in 1900 by Hargraves Wood, and that in the other quadrangles in 1903 by J. H. Wetzel. Additional leveling was done in the Coatsville quadrangle in 1910 by C. H. Semper.

WEST CHESTER QUADRANGLE.

West Chester to Westtown.

	Feet.
West Chester, near northwest corner of county court house grounds, Market and North High streets, in top of wall; aluminum tablet stamped "HARRISBURG 459"	458.765
Westtown, 500 feet west of station, at west end and north side of bridge over Chester Creek, in top of approach to wall; bronze tablet stamped "263 HARRISBURG"	263.118

Westtown via Thornbury and Dilworthtown to Brandywine Summit.

Brandywine Summit, at northeast corner of crossroads, D. B. Martin's residence, in south face of west stone gatepost; bronze tablet stamped "427 HARRISBURG 1900"	426.944

Brandywine Summit west to Chads Ford station (spur line).

Chads Ford, 200 yards east of station, on west abutment of railroad bridge, south side; bronze tablet stamped "168 HARRISBURG 1900"	168.247

Brandywine Summit to State line.

Elam (discontinued post office), 1.25 miles south of, 120 feet west of Wilmington pike, in top of State line stone No. 16; aluminum tablet stamped "384 HARRISBURG 1900"	384.004

State corner No. 6 via Kennett Square, Willowdale, Unionville, Glenhall, and Marshallton to West Chester.

Willowdale, 350 feet south of post office, east side of road to Kennett Square, at northeast end of stone chapel, on stone doorsill; bronze tablet stamped "387 HARRISBURG 1900"	387.542
Glenhall, Pennsylvania Railroad crossing at station; top of rail	210.6
Glenhall, 565 feet north of, 245 feet north of north end of highway bridge over Brandywine Creek, east side of road near spring, in ledge of rock; bronze tablet stamped "216 HARRISBURG 1900"	216.227

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State-line corner No. 16 via Granogue, Centerville, corner 10, and York Lynn to corner 6.

	Feet.
Centerville, 2.5 miles northwest of, 1.5 miles west of Line House, Pa., in top of state-line corner 10; bronze tablet stamped "267 HARRISBURG".	267.701
Hockessin, about 1.1 miles northwest of, 50 feet north of Avondale pike, 50 feet west of lane to Wingate's residence, in field, in top of state-line corner No. 6; aluminum tablet stamped "356 HARRISBURG 1900"	356.057

COATESVILLE QUADRANGLE.

Coatesville southeast along Philadelphia & Reading Railroad to Glenhall.

Coatsville, road crossing; top of rail	305.12
Mortonville, 2,700 feet south of, southeast abutment of railroad bridge; bronze tablet stamped "245 HBG"	245.094
Laurel, in front of station; top of rail	241.1

Kennett Square west along Pennsylvania Railroad to Oxford, thence north along highway to Parkesburg.

Avondale, 450 feet east of station, railroad bridge 33, on northeast bridge seat; bronze tablet stamped "272 HARRISBURG 1903"	272.084
Avondale station, road crossing; top of rail	277.1
West Grove, 200 feet south of station, road crossing; top of rail	390.1
West Grove, 1.2 miles south of, on northeast abutment of overhead bridge; copper bolt	450.305
Kelton station, road crossing; top of rail	545.7
Kelton, 600 feet south of, on east side of track, on stone pier of overhead wagon bridge; bronze tablet stamped "554 HARRISBURG 1903"	554.058
Lincoln University, 100 feet south of station, at road crossing; stone marker.	487.0
Oxford, 2 miles north of, bridge 47, over Elk Creek, on northwest wing wall; copper bolt	405.784
Oxford, 1,200 feet east of station, north side of track, on small culvert, bronze tablet stamped "507 HARRISBURG"	506.534
Russellville, 1.2 miles north of, at northeast corner stone of porch of S. P. Martin; bronze tablet stamped "631 HARRISBURG"	630.700
Parkesburg, 1,200 feet west of Pennsylvania Railroad station, culvert under street railroad, bridge 62, northeast abutment; aluminum tabled stamped "542 HARRISBURG 1903"	543.461

Coatesville north along Philadelphia & Reading Railroad to Birdsboro.

Coatesville, 200 feet north of stone-arch railroad bridge, southeast end of east abutment of railroad bridge over Brandywine Creek; aluminum tablet stamped "314 HBG"	314.410
Valley station, road crossing; top of rail	340.0
Valley, small bridge 0.6 mile north of station, west end of north abutment	375.88

Oxford west along Lancaster, Oxford & Southern Railroad to Peach Bottom (portion of line).

Oxford, in front of Pennsylvania Railroad station; top of rail	534.9
Oxford, 1.3 miles west of, 210 feet west of road crossing, on top of west concrete bridge abutment of railroad cattle pass, south side of track; marked "U. S. □ G. S. B. M. 431"	430.63

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Christiana southwest along Highway to Kings Bridge.

	Feet.
Christiana, Ann Street bridge, west abutment at north end; copper bolt (Pennsylvania Railroad bench mark)	486.43
Christiana, southeast corner of Christiana Hotel; aluminum tablet stamped "494"	493.401
Christiana, 0.7 mile south of, large arch under low grade railway track, north end of retaining wall of highway; top of marked "U. S. B. M. 453".	452.82

HONEYBROOK QUADRANGLE.

Parksburg north along highway via Compass to Beartown.

Compass, at entrance to P. E. Church, in stone doorsill; aluminum tablet stamped "520 HARRISBURG 1903"	519.665
Churchtown road, 0.3 mile west of station, northwest abutment of railroad bridge 17 over pike; top of coping stone	856.08
Wagontown; top of rail	464.6

Wagontown via Suplee to Birdsboro.

Cedar Knoll, in front of station; top of rail	548.8
Cedar Knoll, 0.8 mile north of, railroad bridge over Brandywine Creek, east end of south abutment; bronze tablet stamped "548 HBG"	547.85
Brandamore, road crossing; top of rail	571.1
Ferndale, at station; top of rail	593.1
Birdell, road crossing; top of rail	601.2
Suplee, 250 feet north of station, road crossing; top of rail	645.0
Suplee, 2,400 feet north of, overhead highway bridge, 15 feet from south end of west pier, on top stone; bronze tablet stamped "644 HARRISBURG 1903"	644.394
Fountain, at station, road crossing; top of rail	647.0
Isabella, road crossing; top of rail	645.2
Conestoga, road crossing; top of rail	645.3
Elverson, at station, road crossing; top of rail	645.3
Elverson, southeast corner of wareroom of cannery, on top stone in foundation; aluminum tablet stamped "634 HARRISBURG"	634.423
Kenny, at station, road crossing; top of rail	626.9
Joanna, at station, road crossing; top of rail	625.6
Joanna Heights, road crossing; top of rail	600.3
Cold Run station, road crossing; top of rail	512.7
Geigertown, road crossing, at station; top of rail	424.8
White Bear, at station, road crossing; top of rail	349.4
White Bear, 100 feet north of station, railroad bridge over Hay Creek, on southeast wing wall, aluminum tablet stamped "345 HARRISBURG"	345.264
Trap Rock, in front of station; top of rail	256.61
South Birdsboro, at station, road crossing; top of rail	214.9

Suplee west along railroad to Beartown.

Buchanans Road station, road crossing; top of rail	671.1
Honeybrook, 200 feet west of station, road crossing; top of rail	739.7
Honeybrook, 14 miles west of bridge 16, northeast bridge seat	817.62
Churchtown, road crossing; top of rail	875.8

Spur to Beartown.

Beartown, in east pier of platform of railroad station, aluminum tablet stamped "773 HARRISBURG 1903"	773.484
Beartown, road crossing; top of rail	771.4

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White Bear (Scarlets Mill post office) west along highway to Hummel's store.

	Feet.
White Bear, 100 feet north of station, southeast wing wall of railroad bridge over Hay Creek; aluminum tablet stamped "345 HARRISBURG"	345.262
Plowville, 2 miles west of, 0.25 mile east of Hummel's store, large stone step at entrance to schoolhouse, bronze tablet stamped "730 HARRISBURG"	730.322

PHOENIXVILLE QUADRANGLE.

Glen Loch to West Chester.

Glen Loch, 0.2 mile east of, in south parapet of King Road Bridge; copper bolt (Pennsylvania Railroad bench mark 27)	458.92

Downingtown north along highway via Milford Mills and Pughtown to Pottstown, thence southeast to Phoenixville.

Downingtown, Viaduct Avenue arch, north end, copper bolt	255.053
Downingtown, west side of north end of Viaduct Avenue arch, 720 feet east of station; bronze tablet stamped "255 HARRISBURG"	255.063
East Downingtown station, road crossing; top of rail	242.19
Dowlin station, road crossing; top of rail	274.3
Dorlan station, road crossing; top of rail	288.2
Dorlan, 0.1 mile north of, bridge 6; southeast bridge seat	289.24
Milford Mills, covered wagon bridge over Marsh Creek, near blacksmith shop; east end stone of northeast wing wall	315.62
Pughtown, south end of town, at entrance to schoolhouse, on stone step; bronze tablet stamped "273 HARRISBURG 1903"	273.365
Pottstown, passenger station; copper bolt on doorsill (Pennsylvania Railroad bench mark 31)	138.59
Pottstown, 150 feet west of station, stone-arch bridge of Pennsylvania Railroad, in southeast corner of coping stone; bronze tablet stamped "136 HARRISBURG 1903"	135.798
Spring City, west of, canal bridge, east bridge seat; copper bolt	114.09
Spring City, 1 mile west of, 480 feet west of Pennsylvania Railroad bridge over canal, in southeast bridge seat of undergrade wagon bridge; bronze tablet stamped "117 HARRISBURG 1903"	117.481

At Phoenixville.

Phoenixville, Gay Street Bridge, south of track, capstone of pier of east column; chiseled square	128.487
Phoenixville, 900 feet east of passenger station, northeast coping stone of bridge over Main Street; aluminum tablet stamped "127 HARRISBURG 1903"	127.160

At Frazer.

Frazer, north end of undergrade bridge, east bridge seat; copper bolt	487.418
Frazer, at station, north end of undergrade railroad bridge, west bridge seat; aluminum tablet stamped "487 HARRISBURG 1903"	487.227

Lancaster, Slatington, and Wernersville quadrangles.

BERKS, LANCASTER, LEBANON, AND LEHIGH COUNTIES.

The elevations in the following list are based upon various bench marks of the transcontinental line of the Coast and Geodetic Survey and of the Pennsylvania Railroad, the accepted heights for which accord with the 1907 adjustment.

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The leveling in the Slatington and Wernerville quadrangles was done in 1900 by B. E. White and Hargraves Wood, and that in the Lancaster quadrangle was done in 1901–2 by J. S. B. Daingerfield, and in 1910 by C. H. Sempers. The line from Clay to Brickerville was run in 1905 by J. H. Wetzel.

LANCASTER QUADRANGLE.

Lancaster north along public roads via Lititz and Brunerville to Brickerville.

	Feet.
Lancaster, on northeast corner of foundation wall of courthouse, corner of North Duke Street and alley; aluminum tablet stamped "369 HARRISBURG"	367.006
Lancaster, on west doorsill of Pennsylvania Railroad station; copper bolt (Pennsylvania Railroad bench mark 81)	357.808
Lititz, west side of fountain, on wall; aluminum tablet stamped "385 H G B"	385.223
Brickerville, northeast corner foundation of hotel; aluminum tablet stamped "538 H G B"	538.794

Brickerville west along public roads to Mount Hope, thence south along public roads via Old Line, Salunga, and Silver Spring to Mountville.

Old Line, 1.3 miles north of, at intersection of roads, set in rock; iron post stamped "U. S. 596" (Not U. S. Geol. Survey)	595.968
Old Line (discontinued post office), 650 feet northwest of, southeast corner of foundation of large barn; aluminum tablet stamped "584 H G B"	583.691
Salunga, overhead bridge, south pier, east end; aluminum tablet stamped "405 H G B"	404.536
Salunga, overhead bridge, south pier, west end; copper bolt (Pennsylvania Railroad bench mark 88)	404.599
Mountville, 0.4 mile west of, south parapet of culvert; copper bolt (Pennsylvania Railroad bench mark 123)	390.529
Mountville, west of, on south parapet of culvert; bronze tablet stamped "391 H G B"	390.525

Clay to Brickerville.

Clay, Grant Steinmetz Hotel, in southeast corner stone; bronze tablet stamped "363 ADJ 1903"	362.400

Lancaster east along Pennsylvania Railroad 2.8 miles.

Lancaster, 1.6 miles east of, railroad bridge over Conestoga River, in top of west abutment, north side; copper bolt (Pennsylvania Railroad bench mark 79)	304.800
Lancaster, 2.1 miles east of, in top of overhead bridge, in north pier, west side; copper bolt (Pennsylvania Railroad bench mark 78)	325.930
Lancaster, 2.8 miles east of, in top of mud wall, east abutment, south end of railroad bridge 78 over road; aluminum tablet stamped "345"	342.666

Bench marks set from Pennsylvania Railroad bench marks along Susquehanna River.

Washington Borough, in west end of coping of north abutment of Stamans Run bridge; copper bolt (Pennsylvania Railroad bench mark 40)	229.767
Washington Borough, 200 feet east of Stamans Run bridge, 8 feet east of west end of stone wall, in front of Geo. Brush's barn, top of; aluminum tablet stamped "233"	233.106

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SLATINGTON QUADRANGLE.

Macungie northwest along highway via Fogelsville to Lyon Valley.

	Feet.
Macungie, 0.5 mile west of station; square cut on top of stone of the middle of the south side of Philadelphia & Reading Railroad bridge over small run, marked "XXII B. M. 1881" U. S. C. G. S. B. M.	383. 728
Fogelsville, German Reformed Church; aluminum tablet set in southwest corner of foundation wall under corner stone, stamped "514 HARRISBURG 1900"	514. 269
Claussville, on south end of doorstep of schoolhouse; chiseled square	683. 95

Lyon Valley northwest along highway to New Tripoli, thence northeast along Philadelphia & Reading Railroad to Slatington.

New Tripoli, 0.5 mile northeast of; bronze tablet set in in southeast corner of stone basement of barn owned by A. Bennikoff, stamped "573 HARRISBURG 1900"	572. 722
Germansville depot; top of rail at road crossing, marked "608" on plank	607. 6
Germansville, 600 feet north of crossing by station, on north end of bridge seat, east abutment of railroad trestle bridge over Jordan Creek; chiseled square	600. 97
Best, 500 feet northeast of railroad station; bronze tablet set in north end of bridge seat, west abutment of small railroad bridge, stamped "548 HARRISBURG 1900"	548. 218

Slatington southeast along Lehigh Valley Railroad to Rockdale, thence southwest along highway to Lyon Valley.

Slatington, 0.8 mile south of; iron bolt in west pier of Lehigh & New England Railroad, overhead crossing bridge over Lehigh Valley Railroad, marked "U. S. G. S. B. M. 358" (Lehigh Valley Railroad bench mark 92).	357. 73
Rockdale, 250 feet north of station, at southeast corner of water tank of Lehigh Valley Railroad, in foundation stone under pillar; bronze tablet stamped "354 HARRISBURG 1900"	353. 685
Unionville (Neffs post office), Union Church; east end of lower stone step of front entrance	687. 04

WERNERSVILLE QUADRANGLE.

Womelsdorf via Host post office, Schaefferstown (Tulpehocken post office), Bernville, Garfield, and Brownsville to Wernersville.

Womelsdorf, 1.5 miles west of, at Philadelphia & Reading Railroad overhead bridge, at north wall, east side; cut in base (United States Coast and Geodetic Survey bench mark)	483. 343
Womelsdorf, at northwest corner of Main and Second streets, in east side of foundation, south end of Filbert & Bros. store; aluminum tablet stamped "433 HARRISBURG"	433. 442
Host post office, west side of Jacob Shaffner & Co.'s store, in top wall; bronze tablet stamped "369 HARRISBURG"	368. 666
Schaefferstown (Tulpehocken post office), St. Paul's Church, in west side of stone doorsill; bronze tablet stamped "491 HARRISBURG"	491. 287
Garfield post office, in northeast corner of stone house belonging to postmaster; bronze tablet stamped "367 HARRISBURG"	367. 176
Brownsville (Lower Heidelberg post office), in the east side of south front of schoolhouse; bronze tablet stamped "380 HARRISBURG"	379. 472

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Wernersville west along Philadelphia & Reading Railroad and highway via Robsonia Furnace to county line.

	Feet.
Wernersville, 800 feet west of station, ledge of rock on north side of Philadelphia & Reading Railroad under highway bridge at base of north abutment; bronze tablet stamped "388 HARRISBURG"	387. 496
South Mountain, in front of station; top of rail	394. 64
Robsonia station, 0.1 mile east of, Philadelphia & Reading Railroad bridge over creek, north side, middle pier; United States Coast Survey bench mark No. XXIV	432. 685
Berks-Lancaster County line, about 0.9 mile south of and 0.1 mile south of house at road forks, in large bowlder; bronze tablet stamped "983 HARRISBURG"	982. 642

Hamburg, Hazleton, Mauch Chunk, Pottsville, and Slatington quadrangles.

BERKS, CARBON, LEHIGH, AND SCHUYLKILL COUNTIES.

The elevations in the following list are based upon bench marks in adjacent quadrangles. The leveling was done in 1908 by H. M. Gillman.

HAMBURG QUADRANGLE.

New Tripoli along Philadelphia & Reading Railroad to Port Clinton.

	Feet.
New Tripoli, 1.7 miles southwest of, 1.3 miles north of Lynnport, 210 feet southwest of railway crossing, on north abutment of bridge 60; chisel mark	505. 29
Lynnport, 0.25 mile northeast of, 100 feet east of railway crossing, on southwest bridge seat of bridge 58; chisel mark	481. 01
Lynnport, in center of south face of stone foundation of store owned by S. J. Mantz at northeast corner of road crossing near station; aluminum tablet stamped "477–1908"	476. 703
Jacksonville, 1.4 miles southwest of Lynnport, west of track at road crossing near station, on rock; chisel mark	451. 84
Jacksonville, 0.5 mile southwest of station, 230 feet southwest of road crossing, on south abutment of bridge 54 over creek; chisel mark	442. 31
Wanamaker, 0.6 mile southwest of station, in west face at northwest corner of brick dwelling owned by L. P. Kistler, 550 feet southwest of road crossing; aluminum tablet stamped "442–1908"	441. 519
Kempton, north of station, between and 50 feet distant from each of two road crossings, on southwest bridge seat of bridge 49; chisel mark	411. 30
Kempton, road crossing at station; top of rail	415
Greenawald station, 280 feet northeast of road crossing, on southwest bridge seat of bridge 42; chisel mark	389. 98
Lenhartsville, 400 feet north of main road, in west face of southwest corner of brick schoolhouse; aluminum tablet stamped "384–1908"	384. 385
Lenhartsville, 1.3 miles west of, on stone post at northeast corner of crossroads; chisel mark	616. 12
Lenhartsville, 2.5 miles west of, 2.3 miles east of Hamburg, on rock at southwest corner of crossroads; chisel mark	600. 53
Hamburg, 1.9 miles east of, 400 feet west of crossroads, on south side of road, in northeast corner of north face of St. Paul's Reformed Church; aluminum tablet stamped "568–1908"	568. 305
Hamburg, east part of town, on coping stone of wall at north side of road at T road south; chisel mark	392. 76

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	Feet.
Hamburg, at northeast corner of State and Main streets, on curbing; chiseled square	387.56
Hamburg, 400 feet north of corner of State and Third streets, in southwest corner of south face of Armory Building, in water table at entrance; aluminum tablet stamped "373-1908"	372.424

Drehersville along railroad to Sittler.

Rausch, 100 feet south of station, on culvert stone east of tracks (line run east of road 400 feet to road to Lehigh railroad station); chisel mark	526.00
Rausch, 450 feet north of Philadelphia & Reading Railroad station, in northeast bridge seat of Lehigh Valley Railroad bridge over Philadelphia & Reading Railroad; aluminum tablet stamped "556-1908"	556.219
Kepner, 1.3 miles southwest of station, 270 feet northeast of railway road crossing, in second stepstone of northeast abutment to stone bridge over creek; aluminum tablet stamped "728-1908"	728.202
Dorset, road crossing at station; top of rail	735
Dorset station, 130 feet north of road crossing, in north face of stone foundation to store and dwelling owned by H. H. Staudt; aluminum tablet stamped "729-1908"	728.664
West Penn station, 0.3 mile northeast of, 150 feet east of road crossing, on top stone of north abutment to bridge 121; chisel mark	676.07
Miller's station, at southeast corner of road crossing, in center of north face of stone foundation to Lehigh Valley Hotel owned by George Hartung; aluminum tablet stamped "623-1908"	622.908
Miller's station, 1.0 mile northeast of, 0.8 mile southwest of Andreas station, on large rock at southwest corner of railway crossing; chisel mark	599.26
Andreas (Sittler post office), 300 feet west of station, on northeast bridge seat of bridge 122; chisel mark	587.46

Lenhartsville via Virginville to point 2 miles east of Kutztown.

Lenhartsville, 0.5 mile southwest of, 70 feet north of road crossing, on northeast bridge seat of bridge 37; chisel mark	364.58
Dreibelbis, 100 feet north of station, on northwest abutment of bridge 36; chisel mark	342.93
Virginville, 1,140 feet east of station, south of road, in northeast corner of north face of St. James Evangelical Church; aluminum tablet stamped "354-1908"	354.311
Virginville, 1.4 miles southeast of, at T road north, on rock west of road; chisel mark	580.59
Kutztown, 2.7 miles west of, south margin of road at T road north, on rock; chisel mark	594.21
Kutztown, 2.0 miles west of, on rock in center of T road east; chisel mark	466.17
Kutztown, in west face of Keystone State Normal School building, left of main entrance, 2.5 feet above ground line; aluminum tablet stamped "514-1908"	513.868
Kutztown, 0.6 mile east of, on rock beside track at overhead road crossing; chisel mark	419.85

HAZLETON QUADRANGLE.

Sittler north along Lehigh Valley Railroad.

Andreas, 1.3 miles northeast of station, 500 feet north of road crossing, in north face of northwest wing wall of county bridge over Lizard Creek; aluminum tablet stamped "564-1908"	563.936
German's station, 1.2 miles southwest of, 250 feet east of road crossing, on northwest birdge seat; chisel mark	560.51

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MAUCH CHUNK QUADRANGLE.

Slatington along Lehigh Valley Railroad to point 3 miles northeast of Sittler.

	Feet.
Slatington, 0.8 mile south of, in west pier of Lehigh & New England Railroad bridge over Lehigh Valley Railroad; iron bolt (Lehigh Valley Railroad bench mark 92)	357.73
Lizard Creek Junction, 1.9 miles east of, 50 feet south of east-bound track, in top face of west wall to reservoir on hill; aluminum tablet stamped "430 1908"	429.386
Lizard Creek Junction, 1.3 miles west of, on sandstone bowlder to south of track; chisel mark	483.13
Bellïet's station, 0.3 mile west of, in northeast bridge seat of small bridge over stream; aluminum tablet stamped "528–1908"	527.540
German's station, 150 feet west of road crossing, on southeast bridge seat to small bridge; chisel mark	541.38

POTTSVILLE QUADRANGLE.

Port Clinton north to Drehersville.

Port Clinton, 500 feet north of station, in northwest bridge seat of large iron bridge over Schuykill River; aluminum tablet stamped "403–1908"	402.800
Milano, 300 feet north of station, at railroad crossing; top of north rail	450.4
Miller's station, 1.3 miles south of Drehersville, on cement base of signal post east of north bound track at railway road crossing; chisel mark	474.82
Drehersville, 100 feet north of station, 60 feet south of road crossing, in second stepstone of southeast abutment of bridge 5; aluminum tablet stamped "490–1908"	489.957
Sandsiding block tower, in front of; top of rail	514

SLATINGTON QUADRANGLE.

Point 3 miles east of Kutztown east to Shamrock.

Hinteleiter's station, at road crossing; top of south rail	440.3
Mertztown (Hancock), 0.9 mile northeast of, on culvert at southwest corner of road crossing, left of tracks; chisel mark	448.79

New Holland quadrangle.

LANCASTER COUNTY.

The elevations in the following list are based upon Pennsylvania Railroad elevations, corrected to accord with the latest adjustment of precise leveling. The leveling was done in 1905 by J. H. Wetzel, and in 1910 by C. H. Semper.

NEW HOLLAND QUADRANGLE.

Gap north along highway to Reamstown, thence west to Clay.

	Feet.
Gap, in doorsill of passenger station; copper bolt	549.180
Gap, 3 miles northwest of; in fifth stone step to entrance to Hess's mill near Pequea Creek; bronze tablet stamped "384 ADJ 1903"	383.380
New Holland, 3 miles south of, in brick store building of John Ellsworth, to left of entrance; aluminum tablet stamped "473 ADJ 1903"	473.109
New Holland, opposite side of street from station, in south side of D. M. Rutter & Co.'s grain warehouse, in stone doorsill; bronze tablet stamped "493 ADJ 1903"	492.926

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	Feet.
New Holland, at Styre House, at street crossing; top of rail	521.7
Hinkletown, near mill and hotel, on coping stone of north end of west pier of iron highway bridge over Conestoga Creek at west end of town; aluminum tablet stamped "331 ADJ 1903"	330.761
Reamstown, in upper stone steps at entrance to Reamstown Hotel; bronze tablet stamped "391 ADJ 1903"	391.174
Stevens, 0.3 mile west of, in southeast foundation of Adam Sleighbaugh's barn; bronze tablet stamped "393 ADJ 1903"	393.211
Stevens, 2.5 miles west of, near Mennonite Church, in northeast foundation stone of Abraham Eberly's stone barn; bronze tablet stamped "419 ADJ 1903"	418.335

Witmer north along highway via Oregon to Clay.

Witmer, 0.5 mile west of; copper bolt on overhead bridge	381.60
Harman, railroad crossing; top of rail	391.7
Leacock post office, 1 mile west of, southwest wing wall of double stone-arch bridge over small stream in top coping stone; bronze tablet stamped "315 ADJ 1903"	315.126
Oregon, southeast corner of H. Hosteder's stone mill; bronze tablet stamped "297 ADJ 1903"	296.896
Brownstown, 0.5 mile north of, in southeast corner foundation of Blackbill's Hotel; bronze tablet stamped "360 ADJ 1903"	360.174
Millway, in west doorsill at entrance to F. S. Bruboker's stone mill; bronze tablet stamped "316 ADJ 1903"	315.904
Millway, 2.5 miles north of, in limestone at southeast corner of J. F. Zell's garden, beside road at intersection of roads; bronze tablet stamped "323 ADJ 1903"	322.910

Point 2.8 miles east of Lancaster east along Pennsylvania Railroad to Kinzer.

Lancaster, 4.6 miles east of, in east end of north pier of overhead bridge; copper bolt (Pennsylvania Railroad bench mark 74)	381.57
Witmer, in front of station; top of rail	377.9
Birdinhand, west of station, in front face at east end of south abutment to overhead bridge; aluminum tablet stamped "359"	357.221
Birdinhand, in front of station; top of east-bound track	360.2
Ronk, in front of station; top of rail	384.3
Gordonville, in front of station; top of rail	385.3
Gordonville, opposite station, northwest corner of Herman's warehouse; aluminum tablet stamped "389"	387.451
Gordonville, 0.6 mile east of, in top of south end of east abutment of bridge 75; copper bolt (Pennsylvania Railroad bench mark 67)	367.50
Leaman Place, in front of station; top of rail	383.0
Leaman Place, 0.9 mile east of west abutment of bridge 71, at south end, on top of mud wall; marked "U. S. □ B. M. 402"	400.20
Leaman Place, 1.5 miles east of, in east end of north pier of overhead bridge; copper bolt (Pennsylvania Railroad bench mark No. 64)	425.19
Leaman Place, 1.8 miles east of, bridge 70, in top of south end of west abutment; aluminum tablet stamped "441"	438.608
Leaman Place, 1.8 miles east of, bridge 70, in top of west abutment at north end; copper bolt (Pennsylvania Railroad bench mark 63)	437.220

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Belair, McCall Ferry, and Quarryville quadrangles.

CHESTER, LANCASTER, AND YORK COUNTIES.

The elevations in the following list are based upon bench marks of the Pennsylvania Railroad. The leveling was done in 1910 by C. H. Semper.

BELAIR QUADRANGLE.

Cardiff north along Maryland & Pennsylvania Railroad to point 1.4 miles north of Delta.

	Feet.
Cardiff, on Pennsylvania State road bridge, 200 feet west of station, east end of south abutment, in top; aluminum tablet stamped "414"	414.132
Delta, in front of station; top of rail	401.7
Delta, 1.4 miles northwest of, north end on west side of trestle at milepost 45–33; top of bolt in guard rail, marked "269"	268.60

McCALL FERRY QUADRANGLE.

Point 1.4 miles north of Delta northwest along Maryland & Pennsylvania Railroad to Laurel.

Delta, 1.8 miles northwest of, road crossing at wood covered bridge, 15 feet east of track, north margin of road; square on large rock outcrop, marked "244"	244.16
Bryansville, in front of station; top of rail	235.4
Bryansville, 0.6 mile northwest of, in top of south abutment on west side of railroad bridge over creek; aluminum tablet stamped "231"	230.598
Castle Fin, in front of station; top of rail	240.4
Castle Fin, 1.2 miles north of, 70 feet north of milepost 30–48, 4 feet west of track; top of bowlder marked "U. S. □ B. M. 272"	271.81
Castle Fin, 2.2 miles northwest of, 600 feet north of switch, at road crossing, 20 feet east of track, north margin of road, in rock outcrop; aluminum tablet stamped "295"	294.742
Woodbine, in front of station; top of rail	304.3
Bridgeton, in front of station; top of rail	312.0
Bridgeton, 0.6 mile northwest of, 180 feet south of milepost 26–32, 10 feet east of track, in top of large bowlder; aluminum tablet stamped "322"	321.616
Muddy Creek Forks, 900 feet south of station, on railroad culvert, north wall, between tracks, in top; aluminum tablet stamped "370"	369.849
Muddy Creek Forks, in front of station; top of rail	372.77

Bench marks set from Pennsylvania Railroad bench marks along Susquehanna River.

Creswell, arch at station, coping, east end; copper bolt (Pennsylvania Railroad bench mark)	229.513
Creswell, arch bridge under low grade railway, south end of east wall used as guard wall to driveway under bridge; aluminum tablet stamped "230"	230.271
Creswell, 2.6 miles south of, 550 feet east of milepost 36, west wing of head wall; copper bolt (Pennsylvania Railroad bench mark)	230.735
Creswell, 2.6 miles south of, 580 feet east of milepost 36, east end of heavy retaining wall under low grade railway, in face; aluminum tablet stamped "234"	233.574
Safe Harbor, 1 mile south of, bridge over Boatman's Hollow Creek, in west end of coping; copper bolt (Pennsylvania Railroad bench mark)	208.967
Safe Harbor, 1 mile south of, Boatman's Hollow bridge, 60 feet north of arch, in face of retaining wall under low grade railway; aluminum tablet stamped "211"	211.198

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	Feet.
York Furnace, 0.5 mile south of, 400 feet east of milepost 29, north bridge seat east end of girder bridge; copper bolt (Pennsylvania Railroad bench mark)	180. 980
York Furnace, 0.5 mile south of, 210 feet south of milepost 29, 160 feet north of small girder bridge, 20 feet east of track, top of large rock; aluminum tablet stamped "186"	185. 535
McCall Ferry, 300 feet north of, east coping of arch; copper bolt (Pennsylvania Railroad bench mark)	182. 642
McCall Ferry, 400 feet west of station, highway bridge over Kelley's Run, west abutment, north side, top of parapet wall; aluminum tablet stamped "188"	187. 754
Mud Run, east end, coping of arch; copper bolt (Pennsylvania Railroad bench mark)	147. 664
Mud Run, 600 feet west of, north side of track, in face of vertical rock wall; aluminum tablet stamped "166"	165. 634
Fishing Creek, east coping of arch; copper bolt (Pennsylvania Railroad bench mark)	133. 297
Fishing Creek, in stone foundation of porch of store, 150 feet north of station, in front face; aluminum tablet stamped "122"	121. 802
Bench marks set from Pennsylvania Railroad bench marks along low-grade freight line.	
Smithville, 2.5 miles west of, tower S. F., 475 feet west of milepost 66, on shelf of rock; copper bolt (Pennsylvania Railroad bench mark No. 71)	385. 532
Smithville, 2.5 miles west of, 200 feet east of tower S. F., railroad culvert, south side of track, in top of parapet wall; aluminum tablet stamped "384"	383. 477
Lancaster southeast along highway to Smithville.	
Willow Street, northwest corner of Reform Church, in top of water table; aluminum tablet stamped "486"	484. 145
Willow Street, 2.1 miles south of, 150 feet north of railway crossing, east side of road, north end of arch bridge wall; marked "U. S. □ B. M. 325"	323. 355
Herrville, southwest corner of brick store; aluminum tablet stamped "305"	303. 575
Smithville, 0.2 mile west of, in tunnel under Pennsylvania Railroad track, east end, top of retaining wall to creek; aluminum tablet stamped "Prim. Trav. Sta. No. 4, 1907, 346"	344. 823
QUARRYVILLE QUADRANGLE.	
Kinzer southeast along Pennsylvania Railroad to Christiana.	
Kinzer, in front of station; top of rail	465. 8
Kinzer, bridge 69, north end of west abutment, in top of second step from top; copper bolt (Pennsylvania Railroad bench mark No. 61)	466. 350
Kinzer, 0.5 mile east of, in top of south abutment at west end of overhead bridge; copper bolt (Pennsylvania Railroad bench mark No. 60)	486. 33
Gap, in front of station; top of south high rail	548. 0
Gap, in doorsill at ladies' entrance to station; copper bolt (Pennsylvania Railroad bench mark)	549. 12
Gap, 660 feet east of station, in top of north pier at west end of overhead bridge; aluminum tablet stamped "560"	557. 885
Gap, 1.9 miles east of, at railroad culvert, south side of track at milepost 49-304, west end of mud wall; marked "U. S. □ B. M. 509"	506. 894

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Oxford west along Lancaster, Oxford & Southern Railroad to Peach Bottom (portion of line).

	Feet.
Hopewell, highway stone bridge over Tweed Creek, west end, south side, in top of retaining wall; aluminum tablet stamped "345"	344. 655
Hopewell, in front of station; top of rail	342. 3
Tweedale, in front of station; top of rail	279. 1
Tweedale, 0.6 mile west of, railroad bridge over creek, in top of abutment at west end and north side; chiseled square, marked "U. S. B. M. 254"	253. 36
Point Lookout, in front of station; top of rail	254. 0
Spruce Grove, highway bridge over river, south abutment, west side, in front face of parapet wall; aluminum tablet stamped "271"	270. 685
White Rock, in front of station; top of rail	295. 9
Kings Bridge, 450 feet east of station, west abutment of highway covered bridge, north side, just inside bridge; aluminum tablet stamped "316"	316. 054
Kings Bridge, in front of station; top of rail	312. 4
Kings Bridge, 1 mile west of, east abutment of railroad culvert, north side of track; top of abutment marked "U. S.□B. M. 391"	390. 52
Fairmount, in front of station; top of rail	497. 9
Fairmount, 0.6 mile west of, Ralph Clendenin's house at road crossing, southwest corner at front, in foundation; aluminum tablet stamped "480"	479. 735
Fairmount, 1.3 miles west of, on railroad culvert, west abutment, north side; top of bridge seat marked "U. S. □ B. M. 401"	400. 73
Fulton House, in front of station; top of rail	390. 5
Goshen, in front of station; top of rail	411. 2
Goshen, 0.2 mile west of, at railroad culvert, east abutment, south end, top; marked "U. S. B. M. 410"	409. 77
Eldora, in front of station; top of rail	399. 4
Eldora, at station, southwest corner of Housekeeper's store, front face; aluminum tablet stamped "407"	406. 351
Westbrook, in front of station; top of rail	296. 5
Arcadia, in front of station; top of rail	214. 4
Arcadia, directly opposite station, in northwest corner of J. T. Greeg's house; aluminum tablet stamped "218"	217. 465
Dorsey, in front of station; top of rail	142. 1
Peach Bottom, in front of station; top of rail	96. 3
Peach Bottom, 250 feet west of station, railroad bridge, east abutment, north side, top; aluminum tablet stamped "Prim. Trav. Sta. No. 5 1907, 97"	96. 776
Peach Bottom, 2,550 feet east of milepost 18, 250 feet west of station, southwest back wall; copper plug (Pennsylvania Railroad bench mark 17)	96. 76

Christiana southwest along highway to Kings Bridge.

Nine points, southeast corner of concrete steps to hotel; aluminum tablet stamped "724"	723. 727
Bartville, southeast corner of store porch; aluminum tablet stamped "681"	680. 717
Bartville, 2.5 miles south of, in southeast corner in front face of Colerain Baptist Church; aluminum tablet stamped "561"	560. 391

Smithville southeast along highway to Eldora.

Smithville, 2 miles south of, 150 feet north of Philip Snyder's house, at summit of hill, east side of road; chiseled square on rock outcrop, marked "U. S. B. M. 870"	868. 15

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	Feet.
Smithville, 2 miles south of, 0.3 mile north of Truce, 150 feet north of Philip Snyder's house, east of road, in face of outcrop; aluminum tablet stamped "869"	867.727
Buck, at northeast corner of stone hotel building; aluminum tablet stamped "699"	697.626
Hensel, 1.1 miles north of, in front face at southwest corner of R. J. Simes's brick house on east side of road; aluminum tablet stamped "594"	594.080

Bench marks set from the Pennsylvania Railroad bench marks along low-grade freight line.

Quarryville, 2 miles west of, on low grade railway, 480 feet east of milepost 60, overhead bridge, south abutment, east end; top of parapet wall; aluminum tablet stamped "505"	504.314
Quarryville, bridge over Lancaster-Quarryville railway, 1,155 feet east of milepost 58, east abutment, south end, bridge seat; copper bolt (Pennsylvania bench mark 63)	500.663
Quarryville, arch bridge 421, over highway, east end, south side, top of parapet; aluminum tablet stamped "502"	502.086
Quarryville, near bridge 414, 1,657 feet east of milepost 55, south end, back wall; copper bolt (Pennsylvania Railroad bench mark 60)	549.43
Quarryville, 2.5 miles east of, 2,375 feet east of milepost 56, east end, north coping, at top of arch over creek; aluminum tablet stamped "539"	538.343
Milepost 53, 1,180 feet east of, east end of bridge, south pier, top; copper bolt (Pennsylvania Railroad bench mark 58)	588.55
Quarryville, 5 miles east of, overhead bridge, 1,180 feet east of milepost 53, north abutment, center face; aluminum tablet stamped "586"	585.822
Bridge 406, 1,213 feet east of milepost 50, south and east bridge seat; copper bolt (Pennsylvania Railroad bench mark 53)	526.627
Bridge 407, 1,845 feet west of milepost 50, southeast end; copper bolt (Pennsylvania Railroad bench mark 54)	537.202
Atglen, 3 miles west of, bridge 406, 1,183 feet east of milepost 50, west abutment, north side, top of bridge seat; aluminum tablet stamped "527"	526.731

Hanover and York quadrangles.

YORK COUNTY.

The elevations in the following list are based upon bench marks of the Pennsylvania Railroad. Most of the leveling was done in 1907 by H. D. Hilton; additional leveling was done in York quadrangle in 1910 by C. H. Semper.

HANOVER QUADRANGLE.

Bench marks along Northern Central division of Pennsylvania Railroad.

	Feet.
Brillhart, door step of station; copper bolt (Pennsylvania Railroad bench mark 54)	410.82
Brillhart, in northwest doorsill of station; aluminum tablet stamped "411"	410.753
Glatfelter, 120 feet north of, east center of arch; copper bolt (Pennsylvania Railroad bench mark 51)	439.16
Glatfelter, 225 feet east of railroad crossing, in northwest wing wall of bridge over Codorus Creek; aluminum tablet stamped "439"	438.809
Larue, 150 feet south of, south center coping of arch bridge 78; copper bolt (Pennsylvania Railroad bench mark 46)	512.760
Larue, 140 feet east of station, on west side of stone arch railroad bridge; aluminum tablet stamped "513"	512.683

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YORK QUADRANGLE.

Bench marks along Northern Central division of Pennsylvania Railroad.

	Feet.
Milepost 59, 2,100 feet north of, southwest wing wall of bridge 98; copper bolt (Pennsylvania Railroad bench mark 62)	372.63
Milepost 59, 2,100 feet north of, in southeast abutment of bridge 98; aluminum tablet stamped "372"	372.264
York, doorstep of baggage room, copper bolt (Pennsylvania Railroad bench mark 60)	371.26
York, 100 feet west of Western Maryland Railway station, on southwest abutment of wagon bridge over Codorus Creek; aluminum tablet stamped "368"	367.543
Glen Rock, south of, 180 feet south of milepost 42, northwest back wall of bridge 74, in coping stone; aluminum tablet (Pennsylvania Railroad bench mark 43, reset by G. Latrobe)	547.953
Glen Rock, 180 feet south of milepost 42, northeast wing wall of bridge 74; aluminum tablet stamped "548"	547.624
Shrewsbury, on station step; copper bolt (Pennsylvania Railroad bench mark 40)	737.700
Shrewsbury, Traction Hotel, northwest corner of, 35 feet east of railroad; aluminum tablet stamped "741"	740.948

Bench marks along Frederick branch of Pennsylvania Railroad.

Heistand, overhead bridge, south side, projecting bolt (Pennsylvania Railroad bench mark 9)	441.12
Heistand, northwest pier of overhead bridge, 0.6 foot from ground; aluminum tablet stamped "436"	436.206
Hellam, 1,250 feet west of station, northwest abutment of bridge 14; copper bolt (Pennsylvania Railroad bench mark 6)	354.48
Hellam, 1,250 feet west of station, on northeast abutment of bridge 14; aluminum tablet stamped "354"	354.167

Stoner south to Yorkana (single spur line).

Milepost 5, 1,125.7 feet west of, in southeast abutment of bridge 12; copper bolt (Pennsylvania Railroad bench mark 5)	326.230
Yorkana, east end of town, at crossing of road north to Hellam station, in stone at entrance to residence of Wilton Myers, northeast corner of crossroads; aluminum tablet stamped "648"	647.958

Stoner along highway southeast to East Prospect, thence south to Bittersville, thence southwest to Glen Rock.

East Prospect, north end of town, in east end of foundation of schoolhouse; aluminum tablet stamped "493"	493.146
Bittersville, in northeast foundation of United Evangelical Church; aluminum tablet stamped "567"	566.711
Red Lion, in front of station; top of east rail	897.7
Red Lion, 125 feet south of railroad, in southwest corner of stone step of Myers building; aluminum tablet stamped "911"	910.660
Dallastown, on summit of hill at cross streets; top of rail	927.9
Rye, in southwest foundation of house of C. A. Hess at crossroads; aluminum tablet stamped "733"	732.844
Loganville, in southwest corner of foundation of post office; aluminum tablet stamped "782"	782.166

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Shrewsbury along highway east to Stewartstown, thence northeast to Dolf, thence north to Bittersville.

	Feet.
Sheffer, at road crossing near; top of west rail	793.95
Tolna, in stone step of post office, north side of railroad; aluminum tablet stamped "774"	774.038
Orwig, in front of station; top of north rail	865.3
Stewartstown station; top of south rail	844.0
Stewartstown, in stone step at entrance to Methodist Episcopal Church on Main Street and College Avenue; aluminum tablet stamped "886"	885.431
Dolf, in southeast corner of foundation of barn owned by John A. Wilson; aluminum tablet stamped "775"	774.452
Parke, 1.5 miles west of post office, in northwest corner of foundation of Glassick schoolhouse at crossroads; aluminum tablet stamped "755"	754.462
Keys, 100 feet east of post office, in northwest foundation of barn owned by G. B. Murphy; aluminum tablet stamped "839"	839.104

Laurel west along Pennsylvania Railroad to Parke.

Laurel, at railroad station, 50 feet east of track, 6 feet south of highway, in rock outcrop; aluminum tablet stamped "Prim. Trav. Sta. No. 2 1907, 425"	424.302
Laurel, in front of station; top of rail	425.1

Emmitsburg, Hagerstown, and Taneytown quadrangles.

ADAMS AND FRANKLIN COUNTIES.

The elevations in the following list result from leveling in Maryland in the same quadrangles.

The leveling in the Emmitsburg and Hagerstown quadrangles was done by J. M. Harris in 1908 and that in the Taneytown quadrangle by C. H. Semper in 1908.

EMMITSBURG QUADRANGLE.

At Blue Ridge Summit on Western Maryland Railway.

	Feet.
Blue Ridge, rear of station, in southwest corner of Mentzer & Maurer concrete building; aluminum tablet stamped "1407"	1,407.075
Blue Ridge, in front of station; top of rail	1,406.8

HAGERSTOWN QUADRANGLE.

Midvale north along Western Maryland Railway to Waynesboro.

Midvale, 10 feet south of station, at railroad crossing; top of rail	698.3
Midvale, brick store and station building west of track, in southeast corner of brick wall, in east face, just above freight platform; aluminum tablet stamped "702 MD"	701.853
Midvale, in front of station; top of rail	697.9
Midvale, 0.5 mile north of, railroad crossing; top of rail	658.4
Midvale, 0.8 mile north of, railroad crossing; top of rail	637.0
Midvale, 0.8 mile north of, 75 feet north of road crossing, east of track, on top of south abutment of small bridge, chiseled square; marked "G. S. □635 B. M."	635.06
Midvale, 0.8 mile north of, railroad crossing; top of rail	633.8
Midvale, 1.2 miles north of, railroad crossing; top of rail	621.5
Cress, 100 feet south of, railroad crossing; top of rail	608.0
Cress, in front of station; top of rail	607.4

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	Feet.
Cress, 0.3 mile north of, west of track, on top of north abutment to trestle over Antietam Creek, chiseled square; marked "G. S. □611 B. M."	610.14
Cress, 0.4 mile north of, in front of freight station (no name); top of rail	620.2
Cress, 1.1 miles north of, railroad crossing; top of rail	670.7
Cress, 1.3 miles north of, railroad crossing; top of rail	664.3
Cress, 1.3 miles north of, in road corner just north of Waynesboro yard limit sign, in base of telegraph pole; spike marked "G. S. 659 B. M."	658.18
Waynesboro city limits, railroad crossing; top of rail	675.3
Waynesboro city limits, 0.1 mile north of, railroad crossing; top of rail	673.3
Waynesboro city limits, 0.2 mile north of, railroad crossing; top of rail	670.0
Waynesboro city limits, 0.5 mile north of, railroad crossing; top of rail	691.9
Waynesboro city limits, 0.6 mile north of, railroad crossing; top of rail	699.7
Waynesboro city limits, 0.7 mile north of, railroad crossing; top of rail	702.3
Waynesboro, in front of station; top of rail	710.0
Waynesboro, in stone in northwest foundation of Western Maryland Railway station; aluminum tablet stamped "712 HARRISBURG 1900"	711.801

TANEYTOWN QUADRANGLE.

Kingsdale northeast to Littlestown.

Kingsdale, railroad station, in top stone near east end of south abutment of culvert; aluminum tablet stamped "559 PRIM. TRAV. STA. No. 37"	558.786
Kingsdale, in front of station; top of rail	559.1
Kingsdale, 0.4 mile north of, railroad crossing; top of rail	577.1
Kingsdale, 1.2 miles north of, on top of south abutment on west side of railroad bridge over road, chiseled square; marked "U. S.□B. M. 607"	606.63
Littlestown, opposite Catholic Church on South Queen Street, in northwest corner of Huff Hotel; bronze tablet stamped "635"	634.431

Fairfield, Gettysburg, and Middletown quadrangles.

ADAMS, DAUPHIN, LANCASTER, LEBANON, AND YORK COUNTIES.

The elevations of bench marks in the Middletown quadrangle are based upon various bench marks of the Pennsylvania Railroad; those in the Fairfield, Gettysburg, and Taneytown quadrangles are based upon the elevations of the United States Geological Survey bench marks at Idaville and York Springs, which in turn are based upon the bench mark of the Coast and Geodetic Survey precise levels at Carlisle.

The leveling was done in 1906 by J. H. Wetzel, with the exception of that in the Fairfield quadrangle, which was done in 1908 by H. M. Gillman, jr., and H. W. Peabody.

MIDDLETOWN QUADRANGLE.

Middletown via Waltonville and Lawn to Mount Joy.

	Feet.
Middletown, on railroad bridge over Swatara Creek, copper bolt (Pennsylvania Railroad bench mark 108)	311.04
Middletown, southeast wing wall of Pennsylvania Railroad stone arch bridge over Swatara creek, in coping stone, aluminum tablet stamped "311"	311.008
Round Top Mill, intersection of roads, in front of M. S. Baum's residence, in large bowlder, aluminum tablet stamped "494"	493.369

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	Feet.
Waltonville, in southwest foundation stone of Leander Ridee's barn south of road; aluminum tablet stamped "766"	766.027
Bachmanville, 3 miles west of, in southeast corner of foundation of Benjamin Coley's residence; aluminum tablet stamped "611"	610.841
Bachmanville, in southwest corner of Martin B. Brant's brick residence; aluminum tablet stamped "613"	613.246
Lawn, near station, in northwest corner of foundation of hotel; aluminum tablet stamped "464"	464.220
Milton Grove, in southeast corner of foundation of hotel of C. H. Wittie; aluminum tablet stamped "503"	502.843
Florin, in southeast corner of foundation of Mrs. Metzroth's hotel; aluminum tablet stamped "396 Prim. Trav. Sta. No. 3"	395.777
Mount Joy, Marietta Street Bridge, north abutment (Pennsylvania Railroad bench mark 91)	360.10

Columbia along Pennsylvania Railroad to Hellam, thence along highways to Emigsville.

Columbia, under front window of station; copper bolt (Pennsylvania Railroad bench mark 44)	252.04
Columbia, 300 feet east of station on stone door step of Columbia Grocery Co., owned by Miller & Hartman; aluminum tablet stamped "259"	259.051
Columbia, near west end of; stone arch bridge over 100-foot mill race, south side of track; aluminum tablet stamped "296"	296.255
Hellam, near; bridge 11, copper bolt in southeast abutment (Pennsylvania Railroad bench mark 5)	326.23
Hellam, corner of Main and National highways, in southeast corner of stone foundation of John Goble's store building; aluminum tablet stamped "385"	384.524
Mount Zion, in northwest corner of Mount Zion Lutheran-Reformed church; aluminum tablet stamped "770"	770.439

Tablets set from bench marks of the Pennsylvania Railroad.

Elizabethtown, in third tier of stone from bottom of southwest wing wall of subway at Grafton warehouse; aluminum tablet stamped "457"	457.176
Conewago Junction, opposite station, in large bowlder; aluminum tablet stamped "441"	441.048
Bainbridge, 120 feet east of station, on north side of track, in ledge of rock in cut; aluminum tablet stamped "273"	272.509
Falmouth, near station, in southeast cornerstone of bridge spanning Conewago Creek; aluminum tablet stamped "292"	291.946
Mount Wolf, 420 feet southeast of, in southeast wing wall of stone arch bridge; aluminum tablet stamped "368"	367.950
Marietta, in northwest corner of porch at entrance to railroad house; aluminum tablet stamped "261"	260.472

GETTYSBURG QUADRANGLE.

Idaville south along Gettysburg & Harrisburg Railway to Round Top.

Bendersville, 0.6 mile south of, in north end of east abutment of concrete arch bridge; aluminum tablet stamped "615"	614.510
Center Mills, 0.7 mile south of, in west end of south abutment of concrete railroad bridge; aluminum tablet stamped "577"	576.7
Biglerville, in foundation of Reading Dairy Co. building, 500 feet north of station; aluminum tablet stamped "652"	651.810
Goldenville, 150 feet west of station, in southeast corner of foundation of Milus A. Wilson's residence; aluminum tablet stamped "613"	613.228

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	Feet.
Gettysburg, on large stone at left side of entrance to courthouse; aluminum tablet stamped "553"	552.769
Round Top, near station, south side of road at corner of Tipton Park and battlefield, in large bowlder; aluminum tablet stamped "545"	544.423

Round Top southeast along highway to Littlestown.

Gettysburg, 5.0 miles southeast of, north side of street at Two Taverns, in southeast corner of stone residence of J. J. Epley; aluminum tablet stamped "510"	510.114

Littlestown northeast along Pennsylvania Railroad to McSherrystown, thence northwest along Western Maryland Railroad to New Oxford, thence along highway to York Springs.

Sells station, in southwest corner of Colvin Good's residence; aluminum tablet stamped "573"	572.572
McSherrystown, corner Main and Third streets, at ladies entrance to Union Hotel; aluminum tablet stamped "571"	570.987
Bittinger, southeast corner of station and post office; aluminum tablet stamped "529"	528.642
New Oxford, corner of Pitts and Boulton streets, northwest corner of Oxford House; aluminum tablet stamped "560"	559.892
Hampton, northeast corner of square, in southwest corner of J. P. Myers's brick house; aluminum tablet stamped "550"	549.189
Round Hill, in northeast corner of J. H. Evans's brick store; aluminum tablet stamped "564"	563.577

FAIRFIELD QUADRANGLE.

Biglerville west along highway to Hilltown, thence south to point near Fairfield.

Biglerville, 1.0 mile west of, on rock on north side of road at T road to south; chiseled mark	683.60
Biglerville, 1.9 miles west of, near Clear Springs schoolhouse, in center of crossroads, on stone; chisel mark	731.22
Arendtsville, at southwest corner of crossroads, in northwest corner of west face of Zion Reformed Church; aluminum tablet stamped "710–1908"	709.936
Arendtsville, 0.5 mile west of, Paradise schoolhouse at southeast corner of crossroads, on rock at southwest corner; chisel mark	805.29
Arendtsville, 2.0 miles southwest of, on rock at northwest corner of road forks; chisel mark	769.75
Hilltown, on flag stone in front of M. J. Miller's store at T road to south; chisel mark	752.50
Cashtown, 170 feet west of T road south, in southeast corner of south face of Rocky Top Hotel; aluminum tablet stamped "745–1908"	745.067
Orrtanna, 660 feet south of station, on east side of road, in northwest corner of west face of Orrtanna M. E. Church; aluminum tablet stamped "669–1908"	669.519

Point near Fairfield east along road to Gettysburg.

Fairfield, 2.0 miles north of, on west side of road, about 80 feet south of small stream crossing, on rock outcrop; chisel mark	620.75
Fairfield, in southeast corner of east face of Lutheran Church; aluminum tablet stamped "608–1908"	607.855
Fairfield, 3.0 miles east of, 400 feet north of road, in southeast corner of east face of old stone church; aluminum tablet stamped "558–1908"	557.825
Gettysburg, 3.0 miles west of, Old Black Horse Tavern, on rock at center of road at T road to north	492.48

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	Feet.
Fairview schoolhouse, 2.5 miles west of Gettysburg, at northwest corner of road forks, in northeast corner of east face of schoolhouse; aluminum tablet stamped "527–1908"	526.838
Gettysburg, 1.0 mile west of, at northwest corner of Reynolds Avenue; top of cannon ball	555.81

New Cumberland quadrangle.

CUMBERLAND AND YORK COUNTIES.

The elevations in the following list are based upon the Pennsylvania Railroad elevations, corrected to accord with the latest adjustment of precise leveling. The leveling was done in 1905, by J. H. Wetzel.

Mechanicsburg south along highway, via Shepherdstown, to Mount Top, thence southeast to Dover, thence northeast to Zion View, thence north to Cly.

	Feet.
Shepherdstown, on southeast corner of brick schoolhouse; aluminum tablet stamped "633 ADJ 1903"	632.881
Bowmansdale, 5 miles south of, in north end wall of porch entrance of W. H. Lerew's store; aluminum tablet stamped "720 ADJ 1903"	720.050
Mount Top post office, on southeast corner of store of W. E. Wiley; bronze tablet stamped "594 ADJ 1903"	593.872
Wellsville, 1 mile west of, southwest wing wall of highway bridge over Doe Run; bronze tablet stamped "460 ADJ 1903"	460.000
Roler, on southeast corner of Emig's mill; aluminum tablet stamped "364 ADJ 1903"	364.156
Dover, Peter Brunhous's hotel, in stone pier to porch at ladies' entrance; primary traverse station No. 8, stamped "453 ADJ 1903"	452.880
Zion View, southeast entrance to Zion Church; aluminum tablet stamped "378 ADJ 1903"	377.777
Strinestown, at northwest corner of schoolhouse; bronze tablet stamped "450 ADJ 1903"	449.307
Cly, east side of an arch 675 feet north of milepost 70; copper bolt (railroad bench mark No. 74)	302.66

Millerstown and New Bloomfield quadrangles.

JUNIATA AND PERRY COUNTIES.

The elevations in the following list are based upon various bench marks of the Pennsylvania Railroad within this area. The leveling was done in 1904, by Ira M. Flocker.

NEW BLOOMFIELD QUADRANGLE.

Cove Forge station southwest along highway to Keystone, thence west via Shermansdale to Falling Springs, thence north to New Bloomfield.

	Feet.
Cove Creek arch; copper bolt in north end of (Pennsylvania Railroad bench mark No. 12)	351.546
Keystone, 0.5 mile west of post office, Rye Township, in foundation of schoolhouse of District No. 2; bronze tablet stamped "598 ADJ 1903"	597.423
Shermans Dale, 150 feet west of Union Hotel, opposite south end of covered bridge, in corner stone of old wall; aluminum tablet stamped "445 ADJ 1903"	445.111
Falling Springs, 0.5 mile east of, in northwest corner of stone mill of M. L. Rice; aluminum tablet stamped "471 ADJ 1903"	471.262

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Duncannon west along railroad via New Bloomfield to Mannsville Junction, thence north along highway to Marketsville, thence east to Newport.

	Feet.
Duncannon, railroad bridge over Sherman Creek, in bridge seat of northeast wing wall; aluminum tablet stamped "349 ADJ 1903"	348. 896
Duncannon, northeast wing wall of bridge over Sherman Creek (Pennsylvania Railroad bench mark 13)	355. 234
Sulphur Springs, 600 feet west of, in southwest corner of abutment of railroad bridge; bronze tablet stamped "416 ADJ 1903"	415. 592
Hoffman, 700 feet west of station, 300 feet south of track, in northeast corner of foundation of barn; aluminum tablet stamped "568 ADJ 1903"	568. 380
New Bloomfield, on west side of main entrance of courthouse, in top stone foundation; bronze tablet stamped "679 ADJ 1903"	678. 674
Valley, railroad bridge near station, in southwest bridge seat; bronze tablet stamped "717 ADJ 1903"	717. 194
Sylvan, 0.25 mile north of station, 300 feet south of road forks, wooden bridge over Little Buffalo Creek, northwest corner of north abutment; bronze tablet stamped "543 ADJ 1903"	543. 134
Marketville, covered bridge over Big Buffalo Creek, in northwest corner of north abutment; bronze tablet stamped "494 ADJ 1903"	494. 197
Juniata post office, near village of Milford, 80 feet east of covered bridge over Big Buffalo Creek, top of wing wall of small bridge; bronze tablet stamped "441 ADJ 1903"	440. 474
Newport, square cut in front wall of tank house (Pennsylvania Railroad bench mark 26)	396. 141
Newport, Little Buffalo Creek bridge, northeast wing wall; copper bolt (Pennsylvania Railroad bench mark 25)	394. 023
Newport, in southeast wing wall of Pennsylvania Railroad bridge over Little Buffalo Creek; bronze tablet stamped "394 ADJ 1903"	394. 031

MILLERSTOWN QUADRANGLE.

Thompsontown north along highway to East Salem (two direct lines).

Thompsontown, north abutment of overhead bridge; top Pennsylvania Railroad bench mark 35)	420. 041
Thompsontown, Emmanuel Lutheran Church, in stone step; bronze tablet stamped "465 ADJ 1903"	464. 660
East Salem, top of stone step of schoolhouse; bronze tablet stamped "620 ADJ 1903"	619. 870

Millerstown northeast along highway to Pfouts Valley, thence south to Berlee, thence southwest to point opposite Old Ferry Station, thence northwest to Millerstown.

Millerstown, overhead bridge; chiseled shelf (Pennsylvania Railroad bench mark 31)	409. 116
Millerstown, in foundation of the Ward House; bronze tablet stamped "432 ADJ 1903"	432. 152
Pfouts Valley, in east foundation of post office; bronze tablet stamped "694 ADJ 1903"	694. 177
Berlee (discontinued post office), 800 feet northeast of, in east side of foundation of schoolhouse; bronze tablet stamped "504 ADJ 1903"	503. 690
Old Ferry station, opposite, in southwest corner of foundation of barn; bronze tablet stamped "428 ADJ 1903"	427. 807

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Millerstown north along highway to Evendale, thence east to Oriental, thence south to Pfouts Valley.

	Feet.
Evendale post office, brick house of J. H. Yodira, in northeast corner of foundation; bronze tablet stamped "714 ADJ 1903"	714. 411
Richfield, northwest corner of Richfield Lutheran Church, in foundation stone; bronze tablet stamped "658 ADJ 1903"	657. 862
Oriental post office, 4 miles west of, 4 miles east of Richfield, in abutment of bridge over Mahantango Creek; bronze tablet stamped "553 ADJ 1903".	552. 912
Oriental post office, 300 feet west of, in wing wall of wood and iron bridge; bronze tablet stamped "468 ADJ 1903"	467. 776

Evendale southwest along highway to Brown's Mill (Cocolamus post office) and return.

Cocolamus post office (Brown's mill), just below, in wing wall of iron bridge over Cocolamus Creek; bronze tablet stamped "636 ADJ 1903"	635. 994

Carlisle, Chambersburg, Hancock, and Mercersburg quadrangles.

CUMBERLAND, FRANKLIN, AND YORK COUNTIES.

The elevations in the following list are based upon various bench marks of the transcontinental precise-level line of the Coast and Geodetic Survey and accord with the latest adjustment.

The leveling was done in 1900, by F. M. Taylor. The bench mark near Sylvan was set by a double-targeted line from Cherry Run, W. Va., and is stamped "C," referring to Cumberland datum.

CARLISLE QUADRANGLE.

Carlisle via Mount Holly to Idaville.

	Feet.
Mount Holly Springs, in southwest corner of Philadelphia & Reading Railroad station; bronze tablet stamped "556 HARRISBURG 1900"	555. 440

Idaville via York Springs and Dillsburg to Mechanicsburg.

Idaville, in east side of P. L. Houck's house; bronze tablet stamped "805 HARRISBURG 1900"	804. 975
York Springs, in southwest corner of brick hall; bronze tablet stamped "607 HARRISBURG 1900"	606. 473
Dillsburg, in southwest corner of brick schoolhouse; bronze tablet stamped "613 HARRISBURG 1900"	613. 071
Mechanicsburg, west side of brick high school, at right front entrance; bronze tablet stamped "456 HARRISBURG 1900"	455. 729

Mechanicsburg to Carlisle.

New Kingston, curbstone in front of Doctor Faulk's house; chiseled cross.	453. 35

Mount Holly to Williams Grove.

Leidighs station, 0.33 mile east of, right side of track, capstone of abutment of bridge; chiseled mark	451. 71

CHAMBERSBURG QUADRANGLE.

Chambersburg to Fayetteville.

Fayetteville, in foundation stone east side of Union brick church; bronze tablet stamped "792 HARRISBURG 1900"	791. 660

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Chambersburg via Scotland and Greenville to West Fayetteville.

	Feet.
Scotland, southeast wing wall of bridge over Conococheague Creek, between Soldiers' Orphans Industrial School and Scotland station; capstone, chiseled cross	670. 64
Green Village, in southeast cornerstone of brick schoolhouse; bronze tablet stamped "678 HARRISBURG 1900"	677. 917

Greencastle via Marion Junction to Mercersburg Junction.

Marion Junction, 1 mile west of, Cumberland Valley Railroad, southwest of milepost 60; top of iron support of standard	578. 00

Greencastle to Waynesboro.

Zullinger, stone horse block in front of Louis Hovis's house: chiseled cross	748. 31

Fayetteville to Waynesboro.

Mount Alto (Funkstown or Altondale), entrance to M. E. Church, in left side of stone step; aluminum tablet stamped "848 HARRISBURG 1900"	847. 385
Waynesboro, in stone in north foundation of Western Maryland Railway station; aluminum tablet stamped "712 HARRISBURG 1900"	711. 821

HANCOCK QUADRANGLE.

Cherry Run, W. Va., north along highways through Maryland to point near Sylvan, Pa.

Sylvan, 1.5 miles south of, in south side of Yeakle mill, near southwest corner, 5 feet above ground, in foundation stone; aluminum tablet stamped "407 C"	466. 575

MERCERSBURG QUADRANGLE.

Chambersburg to Loudon.

St. Thomas, in northeast cornerstone of brick hotel; bronze tablet stamped "645 HARRISBURG 1900"	644. 595

Loudon to Richmond.

Loudon, 1.25 miles north of, east side of capstone of culvert; chiseled cross	616. 90
Richmond, in southeast cornerstone of schoolhouse foundation; bronze tablet stamped "676 HARRISBURG 1900"	676. 106

Loudon via Mercersburg Junction to Mercersburg.

Mercersburg, 2.5 miles northeast of, at southeast corner of railroad bridge over west branch of Conococheague Creek; capstone, chiseled square	536. 72

Mercersburg to Cove Gap.

Mercersburg, 1.75 miles west of, Fruit Hill schoolhouse near northwest corner of foundation; chiseled cross	705. 00

Mercersburg via Upton to Greencastle.

Mercersburg, Mercersburg Academy, in northwest corner of dining hall; aluminum tablet stamped "595 HARRISBURG 1900"	594. 789
Mercersburg, 1 mile east of, stone in front of tollgate house; chiseled cross	557. 79
Upton, in southeast cornerstone of brick schoolhouse; aluminum tablet stamped "620 HARRISBURG 1900"	619. 594
Greencastle, 0.75 mile west of, schoolhouse at corner of roads, in foundation stone; chiseled cross	550. 60

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Everett, Hollidaysburg, and Huntingdon quadrangles.

BEDFORD, BLAIR, AND HUNTINGDON COUNTIES.

The elevations in the following lists are based upon various bench marks along precise-level lines of the Pennsylvania Railroad.

The leveling in the Everett and Hollidaysburg quadrangles was done in 1900, and that in the Huntingdon quadrangle in 1901, by F. M. Taylor.

EVERETT QUADRANGLE.

Mount Dallas along Huntingdon & Broadtop Mountain Railroad to Cove.

	Feet.
Mount Dallas, Pennsylvania Railroad bridge over Juniata River, southwest abutment; chiseled square in stone	1,045.98
Everett, in northeast corner of front wall of Union Hotel; aluminum tablet stamped "1015 HARRISBURG"	1,016.373
Everett, 2.7 miles north of, Huntingdon & Broadtop Mountain Railroad bridge over highway and stream, southeast corner top stone of north abutment; bronze tablet stamped "1097 HARRISBURG"	1,097.316
Cypher station, 1,310 feet east of, iron railroad bridge over Juniata River, west wing wall, coping stone; chiseled square	927.67
Cypher, 2.6 miles north of, 300 feet west of eleventh milepost, stone culvert near water station, east wing wall; chiseled square	896.81
Hopewell, 75 feet north of station, I. O. O. F. Block, in southwest corner of south wall; bronze tablet stamped "902 HARRISBURG"	901.428
Riddlesburg, 500 feet north of station, stone culvert over creek, on southeast corner coping stone; chiseled square	860.44
Saxton, corner of Church and Litetis streets, in center of north wall of schoolhouse; aluminum tablet stamped "918 HARRISBURG"	917.314
Saxton, 1.5 miles north of, culvert over highway, northeast corner of east abutment, coping stone; chiseled square	876.91
Foxton post office, Cove station, stone culvert over creek and highway, east wall, 3 feet above surface of highway; bronze tablet stamped "906 HARRISBURG"	905.818

Henrietta west to Curryville, thence south along railroad to Steelton.

Woodbury, brick schoolhouse, at northwest corner of foundation; bronze tablet stamped "1292 HARRISBURG"	1,291.144
Loysburg, northeast corner front foundation of M. E. Church; bronze tablet stamped "1127 HARRISBURG"	1,126.444
Steelton, 0.1 mile northeast of, bottom step of front entrance to Steele's flouring mill, square stone; chiseled mark	937.55

HOLLIDAYSBURG QUADRANGLE.

Henrietta via Martinsburg and Hollidaysburg to Altoona (spur lines from Pennsylvania Railroad bench marks).

Henrietta, north end of foundation of Pennsylvania Railroad passenger station; shelf in rock (Pennsylvania Railroad bench mark 20)	1,394.01
Henrietta, passenger station of Morrisons Cove Branch of Pennsylvania Railroad, corner of foundation; bronze tablet stamped "1393 HARRISBURG"	1,392.679
Martinsburg, Morrisons Cove Bank, north wall, northeast corner of foundation stone; bronze tablet stamped "1407 HARRISBURG"	1,407.050
Roaring Spring, Church of God, corner stone of northwest corner of building; bronze tablet stamped "1237 HARRISBURG"	1,236.443

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	Feet.
Hollidaysburg, Blair County courthouse, near soldiers' monument, northeast corner of front wall of foundation; aluminum tablet stamped "1010 HARRISBURG"	1,010.174
Canaan, near Pennsylvania Railroad station, red brick schoolhouse, in front wall, 3 feet west of door; bronze tablet stamped "1075 HARRISBURG"	1,074.921

Martinsburg via Williamsburg to Franklin Forge (portion of line).

Martinsburg, 0.75 mile south of, near Wye, north leg of east end of culvert, in top stone; copper bolt (Pennsylvania Railroad bench mark 16)	1,342.91

HUNTINGDON QUADRANGLE.

Martinsburg via Williamsburg to Franklin Forge (portion of line).

Williamsburg, northwest corner of brick schoolhouse, in corner stone; bronze tablet stamped "884 HARRISBURG"	884.187
Franklin Forge, south abutment of bridge 24, southeast corner of bridge seat; bronze tablet stamped "862 HARRISBURG"	862.125

Huntingdon southwest via public road and Huntingdon & Broadtop Mountain Railroad to Cove station (Foxton post office).

Huntingdon, Pennsylvania Railroad station, ladies' waiting room, on east window sill; chiseled square (Pennsylvania Railroad bench mark 87)	624.368
McConnellstown, front face of brick hall and band room; bronze tablet stamped "716 HARRISBURG"	715.230
Marklesburg (James Creek post office), front face of brick schoolhouse; aluminum tablet stamped "917 HARRISBURG"	916.511
Foxton (Cove station), in face of north wall of overhead bridge; bronze tablet stamped "906 HARRISBURG 1901"	905.958

Entriken southeast along highway to Cassville, thence north to Huntingdon.

Trough Creek, 2 miles north of, at Paradise furnace, H. P. Reynolds's stock farm, southwest corner of foundation of large barn, in south face of corner stone; bronze tablet stamped "959 HARRISBURG"	959.136
Cassville, 100 feet east of post office, northwest corner of brick store of Sarah A. Heaton; bronze tablet stamped "1247 HARRISBURG"	1,246.304
Finks Bridge, 2.5 miles east of, on south side of road; point on top of large rock stamped "U" on east side and "P" on west side (township boundary post)	1,670.40
Hawns Bridge, 500 feet east of, at Lutheran brick church, in face of stone doorstep of entrance; aluminum tablet stamped "664 HARRISBURG 1901"	664.223
Huntingdon, in water table near main entrance of court house; aluminum tablet stamped "642 HARRISBURG 1901"	642.219

Clearfield, Curwensville, Houtzdale, Philipsburg, and Punxsutawney quadrangles.

CENTER, CLEARFIELD, INDIANA, AND JEFFERSON COUNTIES.

The elevations in the following lists are based upon an aluminum tablet in the foundation of the Seventh Avenue Hotel, Pittsburg, Pa., marked "738 PITTSBURG 1899", the elevation of which is now accepted as 738.384 feet above mean sea level. The initial points upon which these levels depend are various bench marks along precise-level lines of the Pennsylvania Railroad.

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The double-rodded line from Tyrone through these quadrangles was run in 1902 by Ira M. Flocker, and the remainder of the work on the Houtzdale and Curwensville quadrangles was done in 1902 by Charles Hartman, Jr. The remainder of the work in the Punxsutawney quadrangle was done in 1902 by George Seidel.

PHILIPSBURG QUADRANGLE.

Near Philipsburg.

	Feet.
Summit, 800 feet south of, 300 feet south of milepost 13, Pennsylvania Railroad, west of track, top of bank, in top of stone; bronze tablet stamped "2045 PITTS"	2,044.573
Philipsburg, in northeast capstone of bridge over Moshannon Creek; aluminum tablet stamped "1428 PITTSBURG"	1,428.093

HOUTZDALE QUADRANGLE.

Osceola Mills along Pennsylvania Railroad to Beccaria.

Osceola Mills, highway bridge over Moshannon Creek, in southeast wing wall; aluminum tablet stamped "1461 PITTSBURG"	1,460.431
Sterling, 0.1 mile southwest of, 0.5 mile northeast of Houtzdale, bridge 304, in south end of west abutment; aluminum tablet stamped "1500 PITTS"	1,499.553
Houtzdale, crossing at station; top of rail	1,518
McCauley, crossing at station; top of rail	1,535
West Moshannon, crossing at station; top of rail	1,540
Kendrick, crossing at station; top of rail	1,553
Beulah, crossing at station; top of rail	1,575
Smoke Run, 0.1 mile east of, bridge 309, in north end of east abutment; aluminum tablet stamped "1351 PITTS"	1,350.973
Beccaria, at crossing; top of rail	1,374

Osceola Mills north along Pennsylvania Railroad.

Blueball, corner stone of watch-tank house, beside station; bronze tablet stamped "1544 PITTSBURG"	1,543.650
Woodland, 200 feet north of station, in southeast capstone of Pennsylvania Railroad bridge 217; bronze tablet stamped "1463 PITTSBURG"	1,462.964

Clearfield Junction south along railroads and public roads to Pennsylvania Railroad, via Clearfield Bridge, Faunce, and Belsena Mills, to Smoke Run.

Clearfield Bridge, 1.3 miles north of, railroad bridge 28, near crossing, on northwest capstone; chisled square	1,163.14
Clearfield Bridge, over Clearfield Creek, in northwest capstone of highway bridge; bronze tablet stamped "1172 PITTSBURG"	1,171.876
Faunce, in northwest capstone of highway bridge over Clearfield Creek; bronze tablet stamped "1250 PITTSBURG"	1,249.963
Faunce, 3.25 miles west of, southwest corner of church; cut on top of foundation wall	1,613.25
Belsena Mills, in northeast capstone of turntable; bronze tablet stamped "1335 PITTSBURG"	1,334.537
Smoke Run, in southeast top capstone of railroad bridge 39; aluminum tablet stamped "1351 PITTSBURG"	1,350.973
Susquehanna Bridge, railroad station, Pennsylvania Railroad bridge over Susquehanna River on northeast capstone; chisel mark	1,124.97

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CURWENSVILLE QUADRANGLE.

Coalport along Pennsylvania Railroad to Mahaffey.

	Feet.
Irvona, road crossing at station; top of rail	1,380
Berwinsdale crossing at station; top of rail	1,553
Berwinsdale, 0.2 mile northwest of, in west end of south abutment of culvert, in corner stone; aluminum tablet stamped "1543 PITTS"	1,542.766
Lajose, crossing east of station; top of rail	1,315
Lajose, between, and Lajose junction, railroad bridge 33, in northwest coping stone; aluminum tablet stamped "1297 PITTS"	1,296.461
Ostend, at crossing; top of rail	1,387
Mahaffey, Pennsylvania Railroad bridge over Susquehanna River, in coping stone at east end, south abutment; aluminum tablet stamped "1272 PITTS"	1,271.673

Mahaffey east along New York Central & Hudson River Railroad to Clearfield Bridge.

Curry Run, railroad bridge over Susquehanna River, in north end, south abutment; bronze tablet stamped "1222 PITTS"	1,221.235
Kerrmoor, 0.1 mile west of, in north end, south abutment of railroad bridge 44; bronze tablet stamped "1356 PITTS"	1,355.917
Olanta, in northwest abutment of highway bridge over Clearfield Creek; bronze tablet stamped "1296 PITTSBURG"	1,295.216

Curwensville along Pennsylvania Railroad to Grampian.

Curwensville, 0.2 mile east of, in step of abutment of Buffalo, Rochester & Pittsburg Railway bridge; bronze tablet stamped "1143 PITTS"	1,142.628
Grampian, highway bridge over Little Anderson Creek, in southeast capstone of east abutment; bronze tablet stamped "1535 PITTSBURG"	1,535.185

Lajose south along Pennsylvania Railroad to Westover.

Westover, northwest corner of Baptist Church, top corner stone of foundation, in west face; bronze tablet stamped "1368 PITTSBURG"	1,369.074

CLEARFIELD QUADRANGLE.

Clearfield Junction north along Pennsylvania Railroad to Clearfield.

Clearfield, 2.3 miles south of, Pennsylvania Railroad bridge over New York Central & Hudson River Railroad; chiseled cut in abutment	1,129.34
Clearfield, 0.1 mile south of office of New York Central & Hudson River Railroad station, highway bridge over Susquehanna River, in coping of northeast wing abutment; aluminum tablet stamped "1113 PITTSBURG"	1,112.326
Riverview, highway bridge over Susquehanna River, on southwest capstone; chiseled mark	1,113.08

PUNXSUTAWNEY QUADRANGLE.

McGees Mills along Pennsylvania Railroad to Punxsutawney.

McGees Mills, in front of station; top of rail	1,307
Sydney, 0.5 mile northwest of, in top of rock, east of track; bronze tablet stamped "1622 PITTS"	1,621.624
Flynn, crossing; top of rail	1,698
Winslow, southeast corner of station, in top of stone; aluminum tablet stamped "1649 PITTS"	1,648.127

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	Feet.
Elbell, crossing at station; top of rail	1,483
Canoe Creek, crossing at station; top of rail	1,260
Punxsutawney, in northeast wing wall of Mahoning Street Bridge; aluminum tablet stamped "1236 PITTS"[1]	1,235,906
Punxsutawney, in front of station; top of rail	1,236

Cherry Tree (Grant post office) north along public road and railroad via Patchinsville and Burnside to McGees Mills.

Patchinsville, grain house opposite post office, southwest corner of foundation wall; aluminum tablet stamped "1370 PITTS"	1,369.367
Burnside, upper iron bridge over river, northwest abutment; bronze tablet stamped "1328 PITTS"	1,327.388
Glen Campbell, abutment of bridge 42, at intersection of Brady Run and Cush Creek; bronze tablet stamped "1344 PITTS"	1,343.830

Rossiter Junction south along railroad and public roads via Rossiter station and Rochester Mills to Ord post office.

Rossiter station, 350 feet north of, west side of track, west end of culvert; copper bolt stamped "1324 PITTS"	1,323.595
Rochester Mills (Richmond), iron bridge[2] over Little Mahoning Creek, southwest abutment; bronze tablet (stamping obliterated)	1,273
East Run, 0.2 mile west of post office; south side of road, flat rock near blacksmith shop; aluminum tablet stamped "PITTS 1539"	1,538.203

Altoona, Barnesboro, Birmingham, Ebensburg, Johnstown, and Patton quadrangles.

BEDFORD, BLAIR, CAMBRIA, INDIANA, AND SOMERSET COUNTIES.

The elevations in the following list are based upon various bench marks along the precise-level lines of the Pennsylvania Railroad.

The work in the Barnesboro quadrangle was done partly in 1901 by J. H. Wetzel and partly in 1902 by George Seidel. The work in the Ebensburg quadrangle was done in 1901 by J. B. McGuire. The Patton quadrangle was partly leveled in 1901 by F. M. Taylor, the work being completed in 1902 by Charles Hartman, Jr. The leveling in the Johnstown quadrangle was done in 1902 by George Seidel and in 1908 by T. A. Green.

BIRMINGHAM QUADRANGLE.

Tyrone along Pennsylvania Railroad to Vanscoyoc (double-rodded line).

	Feet.
Tyrone, in front of passenger station; chiseled shelf in base course (Pennsylvania Railroad bench mark 110)	910.609
Tyrone, 2 miles north of, northeast wing wall of bridge 5; chiseled square	941.20
Vail, in front of station; top of rail	989
Vanscoyoc, just southeast of, 100 feet southeast of cut, 15 feet north of track; chiseled square in top of rock	1,395.72

[1] Reported destroyed, 1912.

[2] Owing to reconstruction of this bridge the elevation may be erroneous.

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ALTOONA QUADRANGLE.

Bench mark at Utahville.

	Feet.
Utahville, in front of station; top of rail	1,669

Patton east along public road to Frugality.

Frugality, 0.25 mile south of, west end of south abutment of railroad bridge 408, at junction of wye track, on capstone; chiseled cross	1,475.48

PATTON QUADRANGLE.

Bench mark at Coalport.

Coalport, crossing at station; top of rail	1,414

Gallitzin northwest via public road to Loretto, thence west to Ebensburg.

Loretto, northeast corner of Catholic Church, on corner of lowest step; cross cut	1,942.55
Winterset station, at road crossing; top of north rail	2,111

Loretto[1] via public road to Patton, thence west to Elmora.

Chest Springs, southeast corner of frame schoolhouse, on corner stone of foundation; bronze tablet stamped "1969 HARRISBURG"	1,968.649
Patton, 2 miles southeast of, Clarke schoolhouse, southeast corner of cloak room, on face of foundation corner stone; cross cut	1,945.78
Patton, main entrance to Good Building, stone at right side; aluminum tablet stamped "1756 PITTSBURG"	1,755.298
Carrolltown, at left entrance steps to St. Benedict's Catholic Church, on corner stone of foundation wall; square and cross cut	2,173.27
Elmora, 600 feet south of, in valley, southwest corner of schoolhouse, in foundation stone; aluminum tablet stamped "1765 PITTSBURG"	1,763.966

Patton via public road north to Hastings, thence west to Barnesboro.

Hastings, opera house, northeast corner of foundation, north face of top corner stone; aluminum tablet stamped "1736 HARRISBURG"	1,734.503

Hastings north along highway to Westover.

Garway, 1.7 miles north of, north side of railroad bridge 28, on masonry; chiseled cross	1,361.85

Frugality south along railroad to Syberton.

Frugality, 2.5 miles south of, crossing at Dean station, 100 feet south of north abutment of railroad bridge 407, west capstone; chiseled square	1,514.25
Ashville, 0.1 mile south of, on last capstone middle pier of railroad bridge 403; chiseled square	1,643.36
Syberton, 0.25 mile west of, east abutment of iron bridge across Clearfield Creek, on west coping stone of north corner; cross cut	1,764.80

BARNESBORO QUADRANGLE.

At Cookport.

Cookport, southwest of McCoy's store, top of stone over cellar door; aluminum tablet stamped "1609 PITTSBURG"	1,606.622

Cookport east along public roads to Cherry Tree (Grant post office).

Cherry Tree, railroad bridge 314, southeast end of bridge seat; aluminum tablet stamped "1366 PITTSBURG"	1,363.943

[1] Loretto is checked by two other lines from Cresson.

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Cherry Tree (Grant post office) along railroad via Barnesboro and Elmora to Ebensburg.

	Feet.
Barnesboro, 0.1 mile north of station, south abutment of railroad bridge 308, in east end of bridge seat; aluminum tablet stamped "1447 PITTSBURG"	1,445.601

Ebensburg west along road via Pindleton and Strongstown to Penn Run.

Pindleton post office, in southeast corner of foundation of church; aluminum tablet stamped "2301 PITTSBURG"	2,299.643
Strongstown, in southeast corner of Methodist Church; aluminum tablet stamped "1890 PITTSBURG"	1,889.435
Greenville, 4 miles southeast of, 2.5 miles north of Nolo, southwest corner of large barn of M. A. Sleepy, in top of large stone; aluminum tablet stamped "1725 PITTSBURG"	1,724.560

JOHNSTOWN QUADRANGLE.

Border station northwest along Baltimore & Ohio Railroad to Ingleside.

Walsall station (Ingleside), in front of station platform; top of rail	1,282.22
Walsall station (Ingleside), 0.2 mile north of station, in east end of north abutment of railroad bridge; bronze tablet stamped "1275 PITTS"	1,275.570

Point 2.7 miles northeast of Thomas Mill northeast along highways to Kring, thence southeast along Baltimore & Ohio Railroad to Ingleside.

Thomas Mill, 3.6 miles northeast of, at junction with road running northeast-southwest, east of road, 30 feet north of forks, point on rock marked "1558"	1,557.70
Thomas Mill, 4.1 miles northeast of, east of road, west of creek, on ground of William J. Sala, in large flat sandstone rock; aluminum tablet stamped "1527 1908"	1,526.959
Thomas Mill, 5.5 miles northeast of, 500 feet southwest of main forks at church and schoolhouse, east of road; point on rock marked "1286"	1,286.03
Kring, 30 feet west of station sign, south of small railroad bridge; top of rail section, marked "1241"	1,240.84
Kring, 0.2 mile north of, on southeast end of culvert, chiseled square, marked "U. S. 1237" (old bench mark)	1,236.95

Johnstown south along Baltimore & Ohio Railroad to Ingleside.

Johnstown, at west end of north parapet of railroad bridge; copper bolt (Pennsylvania Railroad bench mark)	1,180.231
Johnstown, east end of south parapet of Pennsylvania Railroad bridge; aluminum tablet stamped "1180 PITTS"	1,180.222
Johnstown, railroad ticket office, on window sill; chiseled shelf (Pennsylvania Railroad bench mark)	1,187.561
Johnstown, road crossing at Pennsylvania Railroad station; top of rail	1,184
Johnstown, in front of Baltimore & Ohio Railroad station; top of rail	1,169
Honey Creek, road crossing at station; top of rail	1,194
Johnstown, 3 miles south of, Baltimore & Ohio Railroad and trolley grade crossing; top of rail	1,191
Kring, road crossing at station; top of rail	1,241
Ingleside, 700 feet north of, northeast corner of small railroad bridge; copper bolt marked "1275 PITTS"	1,275.570

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Ingleside northeast along Pennsylvania Railroad via Elkton to Salix.

	Feet.
Scalp Level, 0.45 mile north of, west side of track, 75 feet west of tool house, in large sandstone; aluminum tablet stamped "1719 PITTS"	1,719.185
Salix, 870 feet north of station, under Pennsylvania Railroad culvert, west wall; bronze tablet stamped "2050 PITTS"	2,049.415
Salix, railroad bridge at station, north parapet, east end; aluminum tablet stamped "2077 PITTS"	2,077.722

Seward northeast along Pennsylvania Railroad via Vintondale and Nanty Glo to Ebensburg.

Seward, 0.17 mile west of tower V. K., railroad bridge 226 over Piney Run, north parapet, east end of arch; copper bolt (Pennsylvania Railroad bench mark)	1,091.531
Seward, doorstep of waiting room of station; copper bolt marked "1122 U. S."	1,122.105
Seward, crossing at station; top of rail	1,120
Wehrum, crossing at station; top of rail	1,360
Vintondale, 150 feet east of station, iron bridge, south end of west abutment; aluminum tablet stamped "1403 PITTS"	1,402.701
Twin Rocks, crossing at station; top of high rail	1,668
Nanty Glo, 200 feet south of station, iron bridge, west end of north abutment; bronze tablet stamped "1706 PITTS"	1,705.721
Nanty Glo, crossing at station; top of high rail	1,710
Beulah Road, in front of station; top of rail	1,894

EBENSBURG QUADRANGLE.

At Ebensburg (on line from Gallitzin).

Ebensburg, west front of courthouse, in base of center column of double entrance; aluminum tablet stamped "2138 PITTSBURG"	2,138.173

Wilmore south along public roads and Pennsylvania Railroad to Salix.

Wilmore, in front wall of railroad station; chiseled square (Pennsylvania Railroad bench mark 14)	1,562.663
Wilmore, 1,900 feet north of station, highway bridge over creek, in south end of east abutment; bronze tablet stamped "1555 PITTS"	1,554.329
Lovett, 0.7 mile south of, east end of north parapet of railroad bridge; copper bolt stamped "1725 U. S."	1,724.932

Lovely north along public roads to Blue Knob, thence northwest to Portage.

Pavia, highway bridge over Bobs Creek, in east end of face of north abutment; bronze tablet stamped "1403 PITTSBURG"	1,402.389
Blue Knob, at southeast corner of crossroads, on east end of north wall of Mount Sinai Church; bronze tablet stamped "2375 PITTSBURG"	2,373.770
Blue Knob,[1] Union Township, Bedford County, 2.5 miles northeast of Pavia post office	3,136
Hughes mine tipple, 10 feet west side of track, on top of bowlder; chiseled cross	1,814.45

[1] A flying-level spur line run from Blue Knob post office to the summit of Blue Knob determined this elevation, which is the highest known in the State of Pennsylvania. It is about 4 miles east of the main crest of the Allegheny Plateau and 200 feet higher.

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Bedford, Meyersdale, Somerset, and Windber quadrangles.

BEDFORD AND SOMERSET COUNTIES.

The leveling in the following list is based upon bench marks of the Pennsylvania Railroad.

The leveling in Bedford quadrangle was done in 1901 by J. B. McGuire and in 1907 by H. D. Hilton. The leveling in Meyersdale, Somerset, and Windber quadrangles was done by T. A. Green in 1908.

BEDFORD QUADRANGLE.

Bench marks along Pennsylvania Railroad, Bedford to Manns Choice.

	Feet.
Bedford, southeast corner of freight station, on capstone of pier; chiseled square (railroad bench mark 20)	1,059.650
Bedford, in northwest abutment of wagon bridge over river, 250 feet south of railroad; aluminum tablet stamped "1064"	1,063.562
Wolfsburg, 500 feet south of station, east end of box culvert; copper bolt (railroad bench mark 18)	1,096.42
Wolfsburg, west end of town, in northwest foundation of schoolhouse; aluminum tablet stamped "1122"	1,121.633
Napier, 0.7 mile north of station, in rock; copper bolt (railroad bench mark 17)	1,095.13
Napier, 350 feet north of station, northeast abutment of bridge 7; aluminum tablet stamped "1106"	1,104.315
Napier, in front of station; top of rail	1,108.4
Mount Dallas, 14.3 miles from, north abutment, east end of coping; copper bolt (railroad bench mark 16)	1,116.23
Manns Choice, north abutment of open culvert; copper bolt (railroad bench mark 15)	1,135.20
Manns Choice, 690 feet south of station, in southeast corner of foundation of gristmill; aluminum tablet stamped "1136"	1,135.352

Elton southeast to Lovely, thence north to Pavia.

Felix, 3.3 miles north of, 600 feet east of Felix road, in large rock on north side of Barefoot road; aluminum tablet stamped "2840"	2,839.688
Elton, 8.9 miles east of, 2,000 feet from top on side of Allegheny Mountains, on west side of New Road; chiseled square on rock	2,591.35
Elton, 10.1 miles east of, 535 feet west of intersection of old Johnstown road with road to Lovely, on north side of Barefoot road, in rock; aluminum tablet stamped "2015"	2,014.637
Lovely, in northwest corner of stone wall of building used as post-office, at southeast corner of crossroads; bronze tablet stamped "1314 PITTSBURG"	1,312.801

Bedford north along highway to Weyant, thence west to Lovely.

Belden, northeast corner of crossroads, in large round stone at entrance to store; aluminum tablet stamped "1083"	1,082.563
Cessna, road crossing at station; top of rail	1,079.2
Cessna, 930 feet west of station, on northeast abutment of bridge over Dunning Creek; aluminum tablet stamped "1077"	1,076.531
Fisherstown, in front of station; top of rail	1,089.2
Reynoldsdale, in northwest corner of foundation of post office, 100 feet south of railroad station, on east side of track; aluminum tablet stamped "1105"	1,104.622

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	Feet.
Osterburg, 4,500 feet west of station, in foundation of covered bridge over Bobbs Creek, on northwest side of bridge, 6 feet from water; aluminum tablet stamped "1144"	1,143.692
Weyant, in northwest foundation of building used as post office; aluminum tablet stamped "1256"	1,256.201

Manns Choice west along highway to county line.

Schellsburg, in building used as post office at crossroads, northeast corner of step; aluminum tablet stamped "1259"	1,258.322
Fyan, in foundation of mill, in southeast corner of, 500 feet north of Pittsburg and Baltimore pike; aluminum tablet stamped "1399"	1,398.631

Point on county line 4 miles west of Fyan northeast along highway to bench mark 4 miles north of Felix.

Daley, in step of building used as store, northeast corner of crossroads; aluminum tablet stamped "2617"	2,616.378
Daley, 3.3 miles north of, near old log house in field and small building beside road, east side of road, in large rock; aluminum tablet stamped "2560"	2,559.947
Crumb, 1.1 miles north of, 240 feet north of intersection, opposite spruce tree, west side of road, in large stone; aluminum tablet stamped "2507"	2,506.437
Felix, in foundation of building used as post office, in southeast corner; aluminum tablet stamped "2326"	2,325.471

MEYERSDALE QUADRANGLE.

Rockwood northeast along Baltimore & Ohio Railroad to Somerset.

Rockwood, in south end of mud wall, east abutment of bridge 34; copper bolt (Baltimore & Ohio Railroad bench mark 202g)	1,810.195
Rockwood, in front of station; top of rail	1,811.4
Rockwood, 0.9 mile northeast of, at signal house RX, 30 feet east of tracks, on sandstone rock, cross; marked "1823"	1,822.40
Rockwood, 1.7 miles northeast of, south of tracks, on large bowlder; point, marked "1853"	1,852.66
Shamrock, 0.4 mile northeast of station, 72 feet east of railroad, 60 feet south of stream running west, in limestone rock; aluminum tablet stamped "1881 1908"	1,880.944
Shamrock, 1.5 miles northeast of, 30 feet north of road crossing, west of railroad, point on sandstone rock, marked "1913"	1,912.80
Milford, 0.9 mile northeast of, 80 feet east of railroad, 250 feet south of house occupied by Samuel Walters, in sandstone bowlder; aluminum tablet stamped "2013 1908"	2,013.089
Milford, 2.1 miles northeast of, east of tracks, at south end of fill, point on oblong sandstone bowlder, marked "2058"	2,058.00

SOMERSET QUADRANGLE.

Somerset northeast along Baltimore & Ohio Railroad to railroad crossing 1.1 miles northeast of Geiger.

Somerset, south of, at road crossing, 150 feet east of railroad, on northwest abutment of iron highway bridge; top of bolt head; marked "2093"	2,092.52
Somerset, in front of station; top of rail	2,103.77
Somerset, in northeast corner of stone foundation wall of Baltimore & Ohio Railroad station, on east side; aluminum tablet stamped "2106 1908"	2,105.338

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	Feet.
Somerset, 1 mile northeast of, at road crossing, 30 feet east of railroad, 10 feet south of wagon road, 5 feet east of fence corner; point on rock; mark on post "B.M.2129"	2,128.83
Geiger, 300 feet south of station, west of railroad, 50 feet south of overhead highway bridge, in northwest corner of stone arch, under old South Pennsylvania Railroad, in fourth tier of stone above ground; aluminum tablet stamped "2207 1908"	2,206.133

WINDBER QUADRANGLE.

Railroad crossing 1.1 miles northeast of Geiger northeast along Baltimore & Ohio Railroad via Hooversville to Border station.

Listie, in front of station; top of rail	2,101.30
Wells Creek, 237 feet east of station, in north end of east abutment of railroad bridge over stream; aluminum tablet stamped "2054 1908"	2,053.232
Quemahoning Junction, at junction with Boswell branch of Baltimore & Ohio Railroad, 100 feet south of station sign, on east side of tracks, in base of switch lock; top of spike, marked "B. M. 2032"	2,031.243
Friedens, in front of station; top of rail	2,027.10
Coleman, 60 feet south of station, 75 feet east of northeast corner of store and post office kept by W. W. Dufall, 80 feet west of wagon road running east-west, in rock; aluminum tablet stamped "2016 1908"	2,014.965
Mostoller, 0.8 mile north of, 15 feet west of railroad, on gray sandstone rock; point marked "1849"	1,848.41
Mostoller, 1.6 miles north of, 30 feet east of railroad, 200 feet north of mile post R 21–J 24, in sandstone rock; aluminum tablet stamped "1810 1908"	1,809.038
Stoyestown, 2.3 miles north of, 680 feet north of milepost R 24–J 21, 40 feet east of railroad, in large flat bowlder; aluminum tablet stamped "1713 1908"	1,712.160
Hooversville, in front of station; top of rail	1,678.24
Hooversville, 0.4 mile north of, in east end of north abutment of railroad bridge 230; aluminum tablet stamped "1667 1908"	1,666.555
Landstreet, in front of station; top of rail	1,574.63
Landstreet, 380 feet north of station, 80 feet west of railroad, 95 feet northwest of milepost R 30–J 15, in north end of east abutment of highway bridge; aluminum tablet stamped "1572 1908"	1,571.541
Landstreet, 1.1 miles northwest of, at milepost R 31–J 14, 30 feet south of milepost; point on rock, marked "B. M. 1557"	1,556.29
Holsapple, 235 feet north of station, east end of south concrete abutment of railroad bridge 246; marked "B. M. 1535"	1,534.45
Holsapple, 1.4 miles northeast of, 40 feet east of railroad, 415 feet south of Livingston Union Baptist Church, on north side of old road, in rock; aluminum tablet stamped "1505 1908"	1,504.300
Border, in front of station; top of rail	1,352.3
Border, 422 feet north of station, in east end of south abutment of railroad bridge 252; aluminum tablet stamped "1351 1908"	1,350.172

Friedens northwest along railroad and county road to Boswell, thence along public road via Jerome to point 2.7 miles northeast of Thomas Mill.

Friedens, 3.1 miles northwest of, in south end of east abutment of stone arch under railroad, over wagon road, 100 feet northwest of oil derrick, in lower tier of stone; aluminum tablet stamped "1853 1908"	1,852.200
Friedens, 4.5 miles northwest of, west of railroad in cut; point on rock, marked "1997"	1,996.09

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	Feet.
Ralphton, 0.4 mile north of, 20 feet west of railroad, 300 feet west of Crist's farm, in sandstone culvert; aluminum tablet stamped "2016 1908"	2,015.498
Critchfield Farm, at junction with turnpike running east-west, 70 feet east of three corners, 30 feet north of barn; point on brown rock, marked "1918"	1,917.35
Critchfield Farm, near main road running north at cemetery, in center of forks; point on large flat rock, marked "2005.5"	2,005.07
Critchfield Farm, 1.4 miles northwest of, at top of hill just east of Boswell, north of road, 226 feet west of road north, at graveyard, in sandstone outcrop; aluminum tablet stamped "2001 1908"	2,000.847
Boswell, in front of Baltimore & Ohio Railroad station; top of rail	1,833.55
Boswell, on north end of west abutment of highway bridge over Quemahoning Creek; chiseled square, marked "1814"	1,813.87
Boswell, near junction with main road east at signboard "Johnstown Pike 3 mi.–Davidsville 6 mi.," near foot of signboard; point on rock, marked "1877.5"	1,877.04
Boswell, 2 miles northeast of, northeast corner of crossroads, at frame church, 50 feet west of southwest corner of church, in rock; aluminum tablet stamped "1896 1908"	1,895.048
Boswell, 4 miles northeast of, four corners at signboard reading "Boswell 4 mi.–Johnstown Pike 1 mi.," at southeast corner of crossroads and northwest corner of barn; point on oblong rock, marked "1904"	1,904.00
Jerome, at east edge of town, 425 feet north of forks, east of road, in south foundation wall of Ira J Moon's store; aluminum tablet stamped "1797 1908"	1,796.257
Jerome, 1.8 miles north of, junction with Johnstown turnpike at Thomas Mill, at signboard reading "Maple Spring Church 2 mi.," 50 feet north of forks; point on rock over mill race; signboard marked "B. M. 1410"	1,409.54
Thomas Mill, 1.1 miles northeast of, west of road, in south foundation wall of church on south side; aluminum tablet stamped "1388 1908"	1,387.939
Thomas Mill, 2.7 miles northeast of, west of road, point on sandstone outcrop, marked "1810"	1,810.06

Coleman southeast along highways to Shanksville, thence northeast and north along highways via Reits, Arrow, and Windber to Scalp Level.

Coleman, 3.5 miles southeast of, 690 feet east of forks, 30 feet north of road, on ground of Charles Shank, in rock; aluminum tablet stamped "2225 1908"	2,224.078
Shanksville, center of town, 30 feet south of four corners, 10 feet west of southwest corner of large barn, on sandstone outcrop; chiseled square, marked "2227"	2,226.81
Shanksville, 1.4 miles northeast of, west of road, 40 feet south of road running northeast and southwest, in hub on 36-inch maple tree; nail marked "2518" (hub is old coal land survey bench mark)	2,517.06
Shanksville, 1.7 miles northeast of, 30 feet west of road, 200 feet southwest of house owned and occupied by L. L. Harding; aluminum tablet stamped "2481 1908"	2,480.834
Shanksville, 2.8 miles northeast of, at junction with road west, at southwest corner of forks; point on rock, marked "B.M.2423"	2,422.22
Buckstown, at southwest corner of crossroads, in east foundation wall of store kept by Daniel Wagner; aluminum tablet stamped "2428 1908"	2,427.794
Buckstown, 1.2 miles northeast of, 60 feet east of junction with T road, on south side of road, 8 feet east of spring; point on rock; fence marked "B.M.2540"	2,539.07

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	Feet.
Buckstown, forks of road near, at west edge of woods, in hub on oak tree standing in center of forks; nail, marked "T.P.2551" (coal land survey bench mark)	2,550.83
Buckstown, northeast of, at road running east; point on old hub on 3-inch maple tree, marked "2427" (coal land survey bench mark)	2,426.48
Buckstown, 3.3 miles northeast of, west of road, 35 feet north of road running east, in large sandstone rock; aluminum tablet stamped "2384 1908"	2,383.148
Reitz, at forks of road, north of post office, east of road, in large sandstone bowlder shaped like a stone bench; aluminum tablet stamped "2139 1908"	2,138.743
Reitz, 1.9 miles northwest of, 30 feet south of forks at top of divide; point on rock, marked "2340.5"	2,340.09
Reitz, 3.2 miles northwest of, in south end of west abutment of highway bridge over Shade Creek; aluminum tablet stamped "1942 1908"	1,941.220
Reitz, 5.6 miles north of, at Berwind White coal mine, 20 feet north of railroad crossing, west side; point on rock, marked "B.M.2139"	2,138.54
Arrow, 50 feet south of forks of road at bridge north of, in rock on east side of road; aluminum tablet stamped "2043 1908"	2,042.909
Ashtola, south end of town, 65 feet north of railroad crossing, west of wagon road, in root of 12-inch pine tree; nail marked "2085"	2,084.71
Rummel, front entrance to German Baptist (Dunkard) Church, in south end of third stone step from bottom; aluminum tablet stamped "1857 1908"	1,856.619
Windber, 25 feet northwest of northwest corner of Grand Central Hotel, in south end of east abutment of highway bridge over Paint Creek; aluminum tablet stamped "1683 1908"	1,683.097
Scalp level, 0.5 mile north of, 30 feet west of railroad, 75 feet southwest of tool-house, in sandstone bowlder; aluminum tablet stamped "1719 PITTS"	1,719.185

Crossroads 4 miles west of Fyan.

Fyan, 4 miles west of, at northeast corner of crossroads, on Allegheny Mountain, in large rock; aluminum tablet stamped "2594"	2,593.118

Bellefonte quadrangle.

CENTER COUNTY.

The leveling in this quadrangle was done in 1908 by H. M. Gillman, jr.

Julian southeast along highway and railroad to State College, thence east to Lamont, thence north along railroad to Milesboro.

	Feet.
Julian, bridge 23, in southeast bridge seat; copper bolt (Pennsylvania Railroad bench mark 31)	848.100
Julian, 180 feet east of station, in southeast bridge seat of bridge 23 on Bald Eagle Valley branch of Pennsylvania Railroad; aluminum tablet stamped "Prim. Trav.-850-1907"	849.958
Julian, 2.2 miles southwest of, 2.0 miles north of Waddle, at west side of road at road forks, on rock; chisel mark	1,618.37
Waddle, at southeast corner of road forks, in northeast corner of east face of large barn owned by D. L. Meek; aluminum tablet stamped "113-1908"	1,112.934
Waddle, 3.0 miles southeast of, 4.9 miles northwest of State College, 510 feet north of railroad, in northeast corner of east face of foundation of barn owned by George B. Thompson on Pondbank Farm; aluminum tablet stamped "1197-1908"	1,196.855

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	Feet.
State College, 3.5 miles northwest of, 10 feet south of tracks, at road crossing, on rock; chisel mark	1,091.35
State College, in north face at northwest column base at east entrance to Engineering Building; aluminum tablet stamped "1154–1908"	1,153.994
State College, 1.8 miles northeast of, 1.0 mile west of Lemont, on east side of road at T road west, on rock; chisel mark	964.30
Lemont, at southeast corner of road crossing opposite station, in southwest corner of northwest face of buttress of Lemont Presbyterian Church; aluminum tablet stamped "1046–1908"	1,045.778
Peru, 4.0 miles north of Lemont, 360 feet west of railroad, in north face of stone foundation of house owned by William E. Crust; aluminum tablet stamped "1020–1908"	1,020.241
Pleasant Gap, 0.5 mile north of station, 3.8 miles south of Bellefonte, 150 feet east of railroad, on pike, in southwest corner of west face of large stone house owned by Dr. R. G. Hayes of Bellefonte; aluminum tablet stamped "880–1908"	879.640
Bellefonte, intersection of Allegheny and High Streets, at east side of Allegheny Street, in southwest corner of west face in water table of courthouse; aluminum tablet stamped "809–1908"	809.135
Milesburg, opposite station, on south side of road, in northwest corner of north face of residence of J. W. Peace; aluminum tablet stamped "700–1908"	699.954

Snowshoe intersection northwest to Runville and return.

Runville, 500 feet west of station, in southwest abutment of bridge 57; aluminum tablet stamped "874–1908"	873.571

Unionville northwest to Bellegrove schoolhouse and return.

Unionville, 240 feet west of road crossing, in northeast bridge seat of bridge 26; aluminum tablet stamped "Prim. Trav. Sta. No. 13–780–1907"	779.984
Unionville, 2.1 miles northwest of, 0.5 mile southeast of road forks, in southeast face of stone foundation of Bellegrove schoolhouse; aluminum tablet stamped "1024–1908"	1,023.892

Julian northwest to Belleview schoolhouse and return.

Belleview schoolhouse, 2.0 miles northwest of Julian, 330 feet north of road forks, in center of south face of schoolhouse; aluminum tablet stamped "1003–1908"	1,002.750

Sideling Hill quadrangle.

FULTON COUNTY.

The following bench marks are on an unchecked spur line of levels extended from a Coast and Geodetic Survey bench mark at Hancock, Md. The leveling was done in 1902 by George Seidel.

Hancock, Md., northeast along public road to McConnellsburg, thence northwest to Harrisonville, thence southwest to Needmore. (Single-spur line; circuit not completed.)

	Feet.
Hancock, Md., 0.2 mile east of bridge across Chesapeake & Ohio Canal, north side of canal, on middle of coping stone of aqueduct; chiseled square (U. S. C. S. B. M.)	420.714
Dickeys Mountain, iron bridge across Licking Creek, west end of south abutment; aluminum tablet stamped "532 HBG"	531.886
Big Cove Tannery, 400 feet south of covered bridge, 125 feet north of foot bridge, east side of creek, in ledge of rock; aluminum tablet stamped "651 HBG"	651.420

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	Feet.
McConnelsburg, in front of entrance of Presbyterian Church, in coping stone; aluminum tablet stamped "905 HBG"	904.856
Harrisonville, southeast corner of crossroads, in foundation wall of Dr. Wishart's house; bronze tablet stamped "782 HBG"	782.177
Sipes Mills post office, stepstone in front of store owned by Mrs. M. Akers; bronze tablet stamped "781 HBG"	780.670

Brookville, Clarion, Foxburg, and Smicksburg quadrangles.

ARMSTRONG, BUTLER, CLARION, INDIANA, AND JEFFERSON COUNTIES.

The elevations in the following list are based upon the precise level line of the United States Geological Survey, Franklin to Pittsburgh.

The leveling in the north half of the Foxburg quadrangle was done in 1905 by B. J. Green, and that in the south half was done in 1906 by J. H. Wetzel. The leveling in the Smicksburg quadrangle was done in 1902 by I. M. Flocker and in 1906 and 1907 by J. H. Wetzel and H. D. Hilton; that in the Brookville quadrangle was done in 1905 by B. J. Green and in 1907 by H. D. Hilton.

FOXBURG QUADRANGLE.

Foxburg northeast along Baltimore & Ohio Railroad (narrow gage) to Shippenville.

	Feet.
Foxburg, in stone doorsill of baggage room at Pennsylvania Railroad station; copper bolt	892.544
Foxburg, in east wall near entrance to "The Inn," opposite station; aluminum tablet stamped "885 ADJ 1903"	884.494
Richmond (Alum Rock), opposite post office, in door step of hotel building; bronze tablet stamped "1190 ADJ 1903"	1,190.389
Blairs Corners, 1,000 feet east of, near flouring mill, bridge over Beaver Run, north end of west abutment; bronze tablet stamped "1157 ADJ 1903"	1,156.826
Knox, at southeast corner of Main and State streets, in foundation wall at northeast corner of B. A. Kribbs & Co.'s brick building; aluminum tablet stamped "1382 ADJ 1903"	1,381.839

Parkers Landing northeast to Callensburg, thence southeast via Toby to Cherry Run.

Freedom, southeast wing wall of wagon bridge at south end of town; aluminum tablet stamped "1262"	1,262.005
Callensburg, 0.5 mile southwest of, in southeast corner of Prospect schoolhouse foundation; aluminum tablet stamped "1069"	1,068.685
Toby, near post office, iron wagon bridge spanning Cherry Run, in northwest bridge seat; aluminum tablet stamped "1147"	1,146.724
Cherry Run (Hurley post office), in store building and station; bronze tablet stamped "1241"	1,240.605

Parkers Landing southwest via Bruin to Petrolia, thence east to Fredericksburg, thence north to West Monterey.

Stonehouse, 500 feet northeast of station, east side of track, in large bowlder; aluminum tablet stamped "1055"	1,055.388
Bruin, in southeast wing wall of iron bridge over Little Bear Creek; aluminum tablet stamped "1092"	1,091.846
Petrolia, southwest corner of foundation of residence of Mrs. Mary Duffy; aluminum tablet stamped "1264"	1,263.723
Fredericksburg, in northeast corner of stone foundation of Mrs. Margaret Shakeley's residence; aluminum tablet stamped "1299"	1,299.092

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CLARION QUADRANGLE.

Shippenville southeast along railroad to Holden.

	Feet.
Shippenville, 0.5 mile northwest of, on north end of east abutment of iron county bridge over Deer Creek; aluminum tablet stamped "1209 ADJ 1903"	1,208.296
Clarion Junction, 25 feet in front of entrance to schoolhouse, in rock; bronze tablet stamped "1439 ADJ 1903"	1,438.990
Clarion, 1.3 miles northwest of, in coping at southeast corner of large iron bridge over Clarion River; bronze tablet stamped "1088 ADJ 1903"	1,088.020
Clarion, in north meridian stone near northwest corner of courthouse; bronze tablet stamped "1491 ADJ 1903"	1,490.687
Clarion, in south meridian stone in southeast corner of park opposite courthouse; bronze tablet stamped "1485 ADJ 1903"	1,484.668
Strattonville, 1,500 feet south of, on south end of east abutment of railroad bridge over county road; aluminum tablet stamped "1438 ADJ 1903"	1,437.542
Holden, 1.6 miles west of, in south end of abutment of railroad bridge over Piney Creek; bronze tablet stamped "516 ADJ 1903"	1,515.276

Holden west along highway to point near Sligo, thence north to Elk City.

Kingsville, in foundation wall at southwest corner of M. G. May's store and post office building; aluminum tablet stamped "1387 ADJ 1903"	1,386.944
Greenville (Limestone post office), in foundation wall at northwest corner of flouring mill; aluminum tablet stamped "1270 ADJ 1903"	1,269.697
Greenville, 4 miles west of, 2.5 miles south of Reidsburg, in south foundation wall at southwest corner of J. Monreau's dwelling; aluminum tablet stamped "1325 ADJ 1903"	1,324.660
Burma, 1,000 feet south of, in west foundation of Five Point schoolhouse; aluminum tablet stamped "1279 ADJ 1903"	1,278.874
Piney, on north wing wall of south abutment of large iron bridge over Clarion River; aluminum tablet stamped "1022 ADJ 1903"	1,021.831
Elk City, 3.3 miles south of, in north foundation wall of Madison schoolhouse at crossroads; aluminum tablet stamped "1477 ADJ 1903"	1,476.129

Lawsonham north along Pennsylvania Railroad to Sligo.

Rimersburg, 1.1 miles southeast of station, in north hill pier of coal tipple of Acme Coal Co.; aluminum tablet stamped "1269 ADJ 1903"	1,268.544
Cherry Run (Huey post office), in southeast corner of foundation wall of station, post office, and store building; bronze tablet stamped "1241 ADJ 1903"	1,240.605
Sligo, at northwest corner of Main and Clarion streets, in doorsill of H. Holdid's brick store building; aluminum tablet stamped "1159 ADJ 1903"	1,158.415

At Leatherwood (on line Lawsonham to Climax).

Leatherwood, in large rock 50 feet south of station; aluminum tablet stamped "1000 ADJ 1903"	999.326

Climax east along Pennsylvania Railroad (low-grade division) to Mayport. (Mean of three lines, including railroad levels.)

Bethlehem, 0.5 mile west of, in southeast corner of south coping of stone-arch bridge opposite South Bethlehem; aluminum tablet stamped "1067 ADJ 1903"	1,066.693
New Bethlehem, in baggage-room doorsill; copper bolt (railroad bench mark marked 1077.83 B. M.)	1,077.101

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	Feet.
Oak Ridge, 0.6 mile west of, in coping at northeast corner of bridge 58; copper bolt (railroad bench mark marked 1086.56 B. M.)	1,085.826
Oak Ridge, at northeast corner of bridge 57, over county road near station; aluminum tablet stamped "1089 ADJ 1903"	1,088.401
Mayport, 0.7 mile west of, in coping at north end of east abutment of bridge 56; copper bolt (railroad bench mark)	1,096.723
Mayport, in north end of east abutment of bridge 55; copper bolt (railroad bench mark)	1,104.796

SMICKSBURG QUADRANGLE.

Valier along Pennsylvania Railroad to Dayton.

Valier, road crossing; top of rail	1,225
Hamilton, road crossing; top of rail	1,190
Hamilton, 60 feet west of, 5 feet south of track, in top of large rock; aluminum tablet stamped "1188 PITTSBURG"	1,187.015
Loop, 0.25 mile west of, high bridge over Mahoning Creek, in south end of east abutment; aluminum tablet stamped "1183 PITTSBURG"	1,182.458
Goodville, crossing at station; top of rail	1,215
Dayton, 900 feet west of station, northwest wing wall of Buffalo, Rochester & Pittsburgh Railroad bridge over small stream, on second coping stone; aluminum tablet stamped "1326 PITTSBURG"	1,326.118

Dayton southeast along highways to Marion Center, thence south along Buffalo, Rochester & Pittsburg Railroad to Home, thence by highways to Galbleton.

Dayton, 3 miles south of, 500 feet south of crossroads, in foundation at end of east side of W. R. Spur's house; aluminum tablet stamped "1365 ADJ 1903"	1,365.408
Barnards, 2 miles south of, in southeast corner of foundation of Dunkard Church; aluminum tablet stamped "1219 ADJ 1903"	1,220.292
Plumville, at schoolhouse, in northeast wing wall of iron wagon bridge; aluminum tablet stamped "1168 ADJ 1903	1,169.359
Ambrose, in northeast corner of foundation of D. R. Lewis's store building; aluminum tablet stamped "1161 ADJ 1903"	1,162.566
Marion center, 960 feet north of station, on east side of southeast abutment of bridge over stream; aluminum tablet stamped "1259 ADJ 1903"	1,260.190
Marion Center, in front of station; top of rail	1,259.0
Home, in front of station; top of rail	1,197.2

Hamilton south along highways to Marion Center.

Cavode, in west foundation of store building of Neff & Warushuis; aluminum tablet stamped "1531 ADJ 1903"	1,531.159
Hamil, in southwest wing wall of iron bridge spanning Little Mahoning Creek; aluminum tablet stamped "1225 ADJ 1903"	1,226.599
Hamil, road crossing at station; top of west rail	1,251

Hamilton northwest along highways to Sprankles Mills.

Grange, 400 feet north of post office, in east side of southeast corner of barn foundation owned by L. V. Means; aluminum tablet stamped "1713 ADJ"	1,712.883

BROOKVILLE QUADRANGLE.

Holden southeast along Pennsylvania Southern Railroad to Summerville, thence southwest along Pennsylvania Railroad (low-grade division) to Mayport (mean of two lines).

Holden, 1.2 miles southeast of, on east end of south abutment of small bridge just south of private crossing; aluminum tablet stamped "1433 ADJ 1903"	1,432.338
Summerville, on northwest corner of railroad bridge over Redbank Creek; aluminum tablet stamped "1160 ADJ 1903"	1,159.890

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	Feet.
Heathville, in coping at west end of north abutment of bridge 51 over Beaver Run; aluminum tablet stamped "1158 ADJ 1903"	1,157.456
Heathville, 0.7 mile southwest of, in coping at northwest corner of north abutment of bridge 52 over Redbank Creek; railroad bench mark 1154.69.	1,153.994
Pattons Station post office, in north pier of water tank; copper bolt stamped "1137.255"	1,136.554
Mayport (New Mayville post office), 1 mile east of, in north coping of stone-arch bridge over run and road; aluminum tablet stamped "1108 ADJ 1903"	1,106.892

Sprankles Mills northwest along highways to Pattons Station.

Sprankles Mills, west end of, opposite store, in east side of foundation, at southeast corner of house owned by William Eisenhart estate; aluminum tablet stamped "1271 ADJ 1903"	1,271.334
Worthville, northwest end of, in second step of S. W. Geist's store, west side of southwest corner; aluminum tablet stamped "1193 ADJ 1903"	1,192.681
Langville, 100 feet west of post office, 5 feet west of T roads, in top of large rock; aluminum tablet stamped "1200 ADJ 1903"	1,199.594

Kittanning and Rural Valley quadrangles.

ARMSTRONG, BUTLER, AND INDIANA COUNTIES.

The elevations in the following list are based upon bench marks at Kittanning, Rimerton, and East Brady, on the precise-level line from Erie to Pittsburg.

The leveling in the Rural Valley quadrangle, was done in 1900, by J. H. Wetzel, and that in the Kittanning quadrangle was mostly done in the same year by Ira M. Flocker. The elevations between Climax and Redbank in these quadrangles were determined in 1905.

RURAL VALLEY QUADRANGLE.

Kittanning via Rural Valley and Dayton to Mahoning.

	Feet.
Kittanning, 4.5 miles east of, 50 feet east of road northeast, north side of road, on rock; chiseled square	1,026.19
Kittanning, 5 miles east of, southeast corner stone of stone house; aluminum tablet stamped "1011 PITTSBURG"	1,010.491
Rural Valley, southeast wing wall of bridge, in coping stone; bronze tablet stamped "1112 PITTSBURG"	1,111.610
Dayton, 900 feet west of station, Buffalo, Rochester & Pittsburg Railway bridge over small stream, on second coping stone of northwest wing wall; aluminum tablet stamped "1326 PITTSBURG"	1,326.118
Eddyville, 2 miles south of, on southeast abutment of iron bridge over Mahoning Creek; chiseled square "1019"	1,018.69
Eddyville, iron bridge over Big Mahoning, on bridge seat, southeast wing wall; aluminum tablet stamped "992 PITTSBURG"	992.284
Putneyville, iron bridge over Mahoning Creek, on coping stone of northwest wing wall; chiseled square	940.42
Mahoning, 6 miles east of, iron bridge over Mahoning Creek known as "Macks Bridge;" chiseled square on southeast bridge seat	863.50
Mahoning, 2 miles east of, iron bridge, on coping stone of southwest wing wall; chiseled square	833.17
Mahoning, in front of Pennsylvania Railroad station; top of rail	818.7
Rimerton, 2 miles south of, northwest abutment of railroad bridge; bronze tablet stamped "820 PITTSBURG 1899"	820.810

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Climax west along Pennsylvania Railroad (low-grade division) to Lawsonham.

	Feet.
Climax, in doorsill of Climax Fire Brick Co.'s office, by station; copper bolt marked "1046.765" (railroad bench mark)	1,045.973
Climax, in foundation wall at southeast corner of Climax Fire Brick Co.'s office, by station; aluminum tablet stamped "1046 ADJ 1903"	1,045.644
St. Charles, in coping at northeast corner of bridge 63, just east of station; copper bolt marked "1023.595" (railroad bench mark)	1,022.953
Lawsonham, 2.5 miles east of, in west end of arch tunnel; aluminum tablet stamped "946 ADJ 1903"	945.554
Lawsonham, on south coping of arch bridge east of station; copper bolt marked "909.33" (railroad bench mark)	908.833
Lawsonham, on coping at southeast corner of arch bridge just east of station; aluminum tablet stamped "909 ADJ 1903"	908.768

KITTANNING QUADRANGLE.

Lawsonham west along Pennsylvania Railroad to Red Bank.

Shannon, in face of stone milepost at east side of coal tipple, marked "3 and 107"; aluminum tablet stamped "881 ADJ 1903"	880.127
Redbank, 1 mile east of, in coping at northeast corner of bridge 69; copper bolt marked "856.04" (railroad bench mark)	855.64
Redbank, in coping at northwest corner of railroad bridge over Redbank Creek (Allegheny division); copper bolt marked "845.21" (railroad bench mark)	844.786

Kittanning west along highway to West Winfield, thence north to Chicora and east to East Brady.[1]

Kittanning, public schoolhouse; bronze tablet stamped "803 PITTSBURG"	803.500
West Winfield, 100 feet west of railroad tracks, in foundation of trestle; aluminum tablet stamped "950 PGH 1900"	949.940
Fennelton, 375 feet west of station, in foundation of water tank; aluminum tablet stamped "1068 PGH 1900"	1,068.572
Chicora, corner Main Street and Central Avenue, directly opposite Union Hall, in sandstone post; aluminum tablet stamped "1246 PGH 1900"	1,245.543

Elders Ridge, Indiana, Latrobe, and Wilpen quadrangles.

INDIANA AND WESTMORELAND COUNTIES.

The elevations published in the following list are based upon various bench marks of the Pennsylvania Railroad on lines from West Penn Junction, via Blairsville intersection, to Braddock.

The leveling was done by J. H. Wetzel, except that along the west boundary of the Elders Ridge quadrangle, which was done in 1901 by Ira M. Flocker.

LATROBE QUADRANGLE.

Saltsburg south via New Alexandria to Latrobe.

	Feet.
Saltsburg, wooden covered bridge over Kiskiminitas River, on northeast wing wall, west end; aluminum tablet stamped "849 PITTSBURG"	848.547
New Alexandria, wooden covered bridge over Loyalhanna Creek, southeast wing wall, on coping stone; tablet stamped "945 PITTSBURG"	944.960
New Alexandria, 500 feet north of Pennsylvania Railroad station, east side of road; nail in root of large oak (Pennsylvania Railroad bench mark 407)	975.41

[1] The error distributed in this line is slightly excessive.

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Tablets set from Pennsylvania Railroad bench marks.

	Feet.
Georges Station, on north pier of overhead bridge; aluminum tablet stamped "1199 PITTSBURG"	1,199.160
Latrobe, high school building; aluminum tablet stamped "1026 PITTSBURG"	1,026.186
Millwood, south abutment of overhead bridge, on southwest coping stone; tablet stamped "1175 PITTSBURG"	1,175.266
Livermore, 0.2 mile east of, in southeast wing wall of overhead bridge; aluminum tablet stamped "934 PITTSBURG"	933.442
Blairsville, northeast corner of Pennsylvania passenger station, on foundation offset; chiseled square (Pennsylvania Railroad bench mark 60)	1,011.892
Blairsville, northeast wing wall of Walnut Street Bridge, on coping stone; aluminum tablet stamped "1003 PITTSBURG"	1,003.060

Blairsville along Pennsylvania Railroad via Homer to Indiana (portion of line).

Blairsville, Maple Street crossing; top of rail	1,010.0

WILPEN QUADRANGLE.

Blairsville along Pennsylvania Railroad via Homer to Indiana (portion of line).

Turner, in front of station; top of west rail	1,100.1
Black Lick, in front of station; top of west rail	967
Black Lick, 6 miles north of station, railroad bridge over Two Lick Creek, southwest corner of south abutment, on coping stone; bronze tablet stamped "981 PITTSBURG"	980.510
Rugh, in front of station; top of west rail	1,028.5

INDIANA QUADRANGLE.

Blairsville along Pennsylvania Railroad via Homer to Indiana (portion of line).

Graceton, in front of station; top of rail	1,060
Homer, 600 feet south of station, bridge over Yellow Creek, northwest wing wall, on coping stone; aluminum tablet stamped "1019 PITTSBURG"	1,019.032
Homer, in front of station; top of rail	1,023
Two Lick, in front of station; top of rail	1,057.4
Reed, in front of station; top of west rail	1,149.1
Normal, 1 mile south of, northwest wing wall of bridge; chiseled square	1,227.89
Indiana, normal school campus, on north meridian stone; bronze tablet stamped "1299 PITTSBURG 1900"	1,299.022

Indiana via Creekside, Gaibleton, Penn Run, and Brush Valley to Homer.

Indiana, in front of station; top of west rail	1,309.3
Newville, entrance to M. E. Church, in southwest corner stone; bronze tablet stamped "1034 PITTSBURG"	1,033.678
Gaibleton, 650 feet south of post office, west side of road, double-arch stone bridge, on coping stone of north arch; aluminum tablet stamped "1087 PITTSBURG"	1,086.388
Tanoma, Tanoma House, in top foundation stone of bay window; aluminum tablet stamped "1132 PITTSBURG"	1,132.225
Tanoma, 4.25 miles south of, southeast wing wall of covered bridge, on coping stone; chiseled square	1,191.61
Penn Run (Greenville), on lower stone step of Presbyterian Church; bronze tablet stamped "1475 PITTSBURG"	1,474.578
Brush Valley, entrance to Union House, in south end of top stone step; bronze tablet stamped "1447 PITTSBURG"	1,448.267

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ELDERS RIDGE QUADRANGLE.

Creekside west to Shelocta, thence south via Kent to Livermore.

	Feet.
Shelocta, at west end of covered bridge over Crooked Creek, northeast wing wall, on coping stone; bronze tablet stamped "992 PITTSBURG"....	991.414
Kent, 3 miles north of post office, W. L. Neal's brick house, on upper foundation stone; aluminum tablet stamped "1167 PITTSBURG".....	1,167.098
Kent, 2 miles south of post office, James M. Jack's brick residence, on stone doorstep; bronze tablet stamped "1029 PITTSBURG".....	1,028.344

Shelocta along highway via Elderton, Cochran Mills, and Elders Ridge to Jacksonville (Kent post office).

Shelocta, in wing wall of covered bridge over Crooked Creek; bronze tablet stamped "992 PITTSBURG".....	991.414
Elderton, opposite hotel, on street corner, in west side of square hitching post; aluminum tablet stamped "1265 PITTSBURG".....	1,264.510
Cochran Mills, old covered bridge over Crooked Creek, in northwest wing wall of east abutment; bronze tablet stamped "871 PITTSBURG"....	870.429
Elders Ridge, Presbyterian Church, in southwest corner foundation stone; aluminum tablet stamped "1226 PITTSBURG".....	1,225.639
Clarksburg, at corner of front of hotel, on stone; chiseled square.....	917.85

Elders Ridge to Edri.

Edri, 0.1 mile west of station, in northwest corner of bridge seat of railroad bridge; bronze tablet stamped "834 PITTSBURG".....	833.732

Brownsville, Confluence, Connellsville, Masontown, and Uniontown quadrangles.

FAYETTE, GREENE, SOMERSET, WASHINGTON, AND WESTMORELAND COUNTIES.

The elevations in the following list are based upon various bench marks on the precise-level line, Grafton to Pittsburgh, of the United States Geological Survey, and on the Connellsville and Pittsburgh division precise-level line of the Baltimore and Ohio Railroad. For additional elevations in these quadrangles refer to list under "Precise leveling."

The leveling in the Uniontown quadrangle, along the west boundary of the Confluence quadrangle, and on line to Greensboro in the Masontown quadrangle, was done in 1899, by William Crennell. The leveling in the Connellsville quadrangle, and on the line West Newton to Baird in the Brownsville quadrangle, was done in the same year by J. H. Wetzel, who completed leveling in the Masontown quadrangle in 1900.. The line through Centerville in the Brownsville quadrangle was run in 1901 by M. P. Page.

UNIONTOWN QUADRANGLE.

Uniontown southeast along highway to Farmington.

	Feet.
Summit, 75 feet east of steps in front of Summit House, in large bowlder in field, south side of National Pike, 20 feet south of fence; bronze tablet stamped "2418 PITTSBURG".....	2,417.337

Farmington southwest to Elliottsville.

Elliottsville, in north side of east abutment wing wall of stone-arch bridge over Sandy Creek; bronze tablet stamped "1569 PITTSBURG".....	1,568.475

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Farmington northeast along highway to Ohiopyle, thence northwest along railroad to South Connellsville, thence southwest to Uniontown.

	Feet.
Farmington, in southwest corner of foundation of Thomas Rush's hotel; bronze tablet stamped "1835 PITTSBURG"	1,835.076
Indian Creek, on south bridge seat, west abutment of Baltimore & Ohio Railroad bridge over Indian Creek; bronze tablet stamped "970 PITTSBURG"	969.925
South Connellsville, northwest corner of abutment of bridge over Youghiogheny River (Baltimore & Ohio Railroad "Short Line"); chisel mark	913.84
Dunbar, in water table at northeast corner of George Swearingen's store; bronze tablet stamped "999 PITTSBURG"	998.164
Ferguson (flag station), 0.25 mile north of, on west side of north abutment of bridge over creek; chisel mark	1,110.00
Lemont Furnace, in water table at northeast corner of Union Supply Co.'s store; bronze tablet stamped "1059 PITTSBURG"	1,058.826

MASONTOWN QUADRANGLE.

Point Marion north to Greensboro.

Point Marion, 3.1 miles north of, on stone in west side of south abutment of bridge over Dunkard Creek; chisel mark	799.58
New Geneva, on west side of north abutment of bridge over creek; chisel mark	793.14
Greensboro, on southeast corner of foundation of Crawford's block; bronze tablet stamped "806 PITTSBURG"	806.194

Brownsville southwest via East Riverside to Carmichaels.

Carmichaels, on stone step of entrance to schoolhouse; aluminum tablet stamped "1004 PITTSBURG"	1,003.947

CONFLUENCE QUADRANGLE.

Ohiopyle to Somerfield.

Ohiopyle, south face of north abutment of Baltimore & Ohio Railroad bridge over Youghiogheny River; bronze tablet stamped "1218 PITTSBURG"	1,217.282
Somerfield,[1] corner of Main and Water streets, foundation wall of brick building owned by J. W. Endsley; aluminum tablet stamped "1386 C"	1,390.000

CONNELLSVILLE QUADRANGLE.

South Connellsville northwest along Baltimore & Ohio Railroad.

Connellsville, Main street, between Baltimore & Ohio Railroad and river, on top stone of south end of pier of wagon bridge over Youghiogheny River; aluminum tablet stamped "885 PITTSBURG"	884.508
Bradford, in front of station; top of rail	859.2
Dawson, in face of entrance to First National Bank; aluminum tablet stamped "851 PITTSBURG"	851.100
Layton, 600 feet south of station, at north end of Fayette brick works, in stone on north side of railroad arch culvert; aluminum tablet stamped "806 PITTSBURG"	805.988
Layton, in front of station; top of rail	806
Jacobs Creek, 1,200 feet south of station, on southwest corner of railroad bridge over Jacobs Creek, south abutment; aluminum tablet stamped "782 PITTSBURG"	783.292

[1] This bench mark was determined by levels extended from the Accident quadrangle.

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	Feet.
Jacobs Creek, in front of station; top of rail	781.5
Smithton, in front of station; top of rail	781.5

Broadford northeast along Baltimore & Ohio Railroad to Mount Pleasant, thence northwest along highway to Hunkers, thence west to West Newton.

Summit Mines, in front of station; top of rail	1,224.2
Scottdale, H. C. Frick Coal Co.'s building, in second stone below water table, at left side of entrance; aluminum tablet stamped "1040 PITTSBURG"	1,039.361
Hammondville, in front of station; top of rail	1,039.0
Mount Pleasant, in front of station; top of rail	1,071.1
Mount Pleasant, left side at entrance to Farmers and Merchants' National Bank, on foundation stone; aluminum tablet stamped "1222 PITTSBURG"	1,222.270
Tarrs, in front of station; top of rail	1,088.0
Ruffsdale, in front of station; top of rail	1,042.2
Hunkers, 150 feet south of station, west end of south abutment of railroad bridge, on coping stone; bronze tablet stamped "939 PITTSBURG"	939.04
Mendon, east end of town, northwest corner of brick house owned by F. F. Grove, in second stone from top of foundation; bronze tablet stamped "1104 PITTSBURG"	1,104.024

BROWNSVILLE QUADRANGLE.

West Newton west along highway to Baird flag station.

West Newton, wagon bridge over Youghiogheny River, north side of east end of wing wall; aluminum tablet stamped "771 PITTSBURG"	770.572
West Newton, in front of station; top of rail	767.0
Gambles (formerly Gambles post office), west side of front entrance to James Torren's brick house, on stone in retaining wall; bronze tablet stamped "1134 PITTSBURG"	1,133.712

West Brownsville west-northwest along highway to Beallsville.

Centerville (East Bethlehem post office), 35 feet east of H. L. Smith's store, 30 feet east of center of street, Mrs. Deaves's residence, in northwest corner of retaining wall; bronze tablet stamped "1178 PITTSBURG"	1,177.651

Carnegie, Freeport, Greensburg, New Kensington, Pittsburgh, and Sewickley quadrangles.

ALLEGHENY, ARMSTRONG, BEAVER, BUTLER, WASHINGTON, AND WESTMORELAND COUNTIES.

The elevations in the following list are based upon precise-level lines of the Corps of Engineers, U. S. Army, of the Baltimore & Ohio Railroad, of the Pennsylvania Railroad, and of the United States Geological Survey. For other elevations in this locality refer to list under "Precise leveling."

The leveling was done mostly in 1903, by C. W. Marvin, in the Greensburg quadrangle and in part of the Freeport quadrangle, and the remainder by J. H. Wetzel. Five of the bench marks in the Sewickley quadrangle were established in 1905 by B. J. Green.

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CARNEGIE QUADRANGLE.

Smithfield Street Bridge, Pittsburgh, northwest to McKees Rocks, thence southwest along Pittsburgh, Chartiers & Youghiogheny Railway and highway to Carnegie, thence along Pennsylvania Railroad to Washington.

	Feet.
Pittsburgh (south side), south end of Smithfield Street Bridge, in north face of abutment facing Pittsburgh & Lake Erie Railroad, 17 feet east of west side of abutment, 9 courses of stone from top; seat cut, marked "U. S. B. M."	726.730
Smithfield Street Bridge, 1 mile west of, on signal foundation	726.84
McKees Rocks, Pittsburgh & Lake Erie Railroad bridge over mouth of Chartiers Creek, on bridge seat, north end of west abutment; aluminum tablet stamped "720 PITTSBURG"	717.905
Scully, in front of station; top of rail	747.4
McKees Rocks, 3.2 miles south of, on northeast abutment of railway bridge (railroad bench mark)	745.78
Pike, road crossing at station; top of rail	777
Thornburg, in front of station; top of rail	774
McKees Rocks, 5.2 miles south of, small bridge over Lewis Run, on coping stone at southeast corner; chiseled square	763.53
Lockton, on southwest wing wall of railroad bridge over Chartiers Creek, on coping stone; chiseled square	766.18
Carnegie, in front of station; top of rail	768.6
Carnegie, iron wagon bridge spanning Chartiers Creek at Main Avenue, south end of southeast wing wall; aluminum tablet stamped "773 PITTSBURG"	772.836
Glenn station, in front of; top of south rail	802.9
Heidelburg, small arch bridge at station, on coping stone; railroad bench mark	791.97
Woodville, in front of station; top of rail	803.2
Bridgeville, bridge 5 spanning Chartiers Creek, northeast wing wall of east abutment; railroad bench mark	801.32
Marshalsea, in front of; top of rail	851.3
Boyce, 3 miles south of, bridge 9 spanning Chartiers Creek, on west end of north abutment; aluminum tablet stamped "857 PITTS"	856.205
Hill, road crossing at station; top of west rail	868.8
Vaneman, in front of station; top of west rail	922.9
Vaneman, bridge 13, on west wing wall of north abutment; railroad bench mark	928.60
Canonsburg, iron road bridge over Chartiers Creek, Jefferson Avenue, in east end of north abutment; aluminum tablet stamped "931 PITTS"	930.659

Carnegie west along railroad to McDonald.

Carnegie, 1.2 miles west of, bridge 13; railroad bench mark	798.88
Rennerdale, in front of station; top of rail	855.5
Greggs, 600 feet west of, bridge 19, on northeast coping stone; aluminum tablet stamped "893 PITTS"	892.402
Oakdale, road crossing at station; top of rail	905.9
McDonald, northeast wing wall of McDonald Street iron bridge; aluminum tablet stamped "980 PITTS"	979.631

PITTSBURGH QUADRANGLE.

Finleyville northeast along Baltimore & Ohio Railroad to Thompson flag station.

Cochran Mills, southwest coping stone of stone-arch bridge; aluminum tablet stamped "884 PITTS"	882.546
Cochran Mills, road crossing at station; top of rail	894.3

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	Feet.
Wallace, road crossing at station; top of rail	903.8
Bruce, 0.5 mile north of bridge 90, on bridge seat; railroad bench mark	1,002.16
Willoch, iron highway bridge at station, on southeast wing wall; aluminum tablet stamped "926 PITTS"	925.060
Hayes, near station, south side of land pier of Baltimore & Ohio Railroad overhead bridge; railroad bench mark	760.49

Hulton south along railroad to Bessemer.

Bessemer Bridge; bronze tablet stamped "759 PITTS"	759.492

NEW KENSINGTON QUADRANGLE.

Cheswick north along highway railroad to Bartley.

Grey's mill, iron bridge over wagon road, southwest bridge seat; aluminum tablet stamped "975 PITTS"	974.406
Bartley, south side of door entrance to store of T. G. Kennedy, in foundation wall; aluminum tablet stamped "1171 PITTS"	1,171.013

Bartley west along highway to Valencia. (Double-rodded line.)

Glade Mills, brick residence of J. W. Starr, in northeast foundation stone; aluminum tablet stamped "1087 PITTS"	1,086.348

Valencia south along Baltimore & Ohio Railroad to Sharpsburg.

Gibsonia, 1,200 feet south of station, east end of south abutment of small bridge 336; aluminum tablet stamped "1031 PITTS"	1,030.880
Wildwood, 1 mile north of, northeast bridge seat of small wooden bridge; copper bolt	959.007
Wildwood, southwest bridge seat of bridge 329; copper bolt (railroad bench mark)	915.171
Bryant, 1 mile west of, northwest bridge seat of bridge 327; copper bolt (railroad bench mark)	902.511
Bryant, 1.5 miles south of station, bridge 323 over Pine Creek, southeast bridge seat; aluminum tablet stamped "853 PITTS"	853.125
Elfinwild, 400 feet north of station, southeast bridge seat; copper bolt (railroad bench mark 315)	833.237
Glenshaw, 300 feet north of, northeast bridge seat; copper bolt (railroad bench mark)	789.110
Pine Creek, 0.1 mile east of station, railroad bridge spanning Pine Creek, northwest abutment; copper bolt (railroad bench mark)	733.04

SEWICKLEY QUADRANGLE.

Valencia north along Baltimore & Ohio Railroad to Mars, thence west along highway, via Brush Valley, to Freedom.

Downieville, 1,400 feet north of station, on northwest bridge seat of small culvert bridge; bronze tablet stamped "1036 PITTS"	1,035.341
Brush Creek, 3 miles east of, south side of road, northwest corner of J. F. Martin's barn, in foundation; bronze tablet stamped "1245 PITTS"	1,245.234
Brush Creek, stone-arch bridge over Brush Creek, in southwest coping stone; bronze tablet stamped "1066 PITTS"	1,066.096
Lovi, southeast corner of store and post office, in foundation wall; bronze tablet stamped "1138 PITTS"	1,137.771
Conway, 2 miles east of, iron highway bridge over Crows Run near Parks's store, on north end of southwest wing wall; aluminum tablet stamped "802 PITTS"	801.792

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Bryant west along highway via Perrysville to Dixmont.

	Feet.
Emsworth, 3.7 miles east of, iron bridge over Lowrie Run, on northeast wing wall; bronze tablet stamped "881 PITTS"	880.918
Dixmont, northeast corner of gas house; east sill of window	719.46
Dixmont, 75 feet east of entrance to hospital, in coping stone of retaining wall; bronze tablet stamped "727 PITTS"	726.930

At Economy and Ben Avon (set from Pennsylvania Railroad levels corrected).

Economy, 2,000 feet north of; northeast corner of north coping of bridge 15.	711.55
Economy, 2,000 feet north of, on second step from top of bridge 15, on northwest wing wall; bronze tablet stamped "710 PITTS"	710.119
Ben Avon, northwest corner of railway station, in foundation wall; bronze tablet stamped "728 PITTS" (1.96 feet higher than railroad bench mark on bridge 6)	727.871

At Stoops Ferry (set from U. S. Corps of Engineers' precise-level line).

Stoops Ferry station (opposite Sewickley), northwest abutment wall of Pittsburgh & Lake Erie Railroad bridge over Narrows Run, on top of third course of stone below top; bronze tablet stamped "721 PITTS"	721.266

GREENSBURG QUADRANGLE.

Moss Side (old line of Pennsylvania Railroad) along railroad via Stewart station and Murraysville to Export, thence along highway via Delmont and Harveys Five Points to Greensburg.

Moss Side, at station, near northwest corner of fence of dwelling; stone monument (Pennsylvania Railroad bench mark)	763.111
Stewarts, 600 feet west of station, in capstone at north end of stone bridge over creek, 50 feet east of west end; copper bolt (Pennsylvania Railroad bench mark 80)	782.621
Saunders Junction, 0.84 mile west of, bridge over Turtle Creek, on southeast corner stone of abutment, west end of bridge; tip cut	817.91
Murraysville, 800 feet west of station, west end of bridge over Turtle Creek, south end of stone abutment, in top of next to top step; bronze tablet stamped "897 PITTS"	897.143
Export, 0.3 mile west of station, power house at Elizabeth coal tipple, on southwest corner of water table; tip cut	973.56
Export, 0.1 mile east of, in south end of coal building at tipple of Westmoreland Coal Co., 2.5 feet west of door, foundation of boiler room; aluminum tablet stamped "983 PITTS"	982.220
Delmont, at southeast corner of National Bank building, on northwest corner of cross streets, west side of corner post; top of water table	1,265.82
Harveys Five Points, frame house of A. B. Huff, 5 feet west of southeast corner of foundation; bronze tablet stamped "1327 PITTS"	1,327.279
Millers schoolhouse, on foundation, 10 feet east of southwest corner; square cut	1,289.67
Greensburg, 350 feet south of station, in water table of Monaham Hotel, 1 foot south of northwest corner; aluminum tablet stamped "1079 PITTS"	1,078.296

At Jeannette and Irwin.

Grapeville, 300 feet east of station, brick house, base course in bay window; Pennsylvania Railroad bench mark 71	1,059.561
Jeannette, 120 feet east of station, south of track and west of overhead bridge, in angle of stone wall; aluminum tablet stamped "1040 PITTS"	1,039.87
Irwin, railroad bridge, west end of north back wall (Pennsylvania Railroad bench mark)	879.107

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	Feet.
Irwin, south side of station, in center of third capstone east of west end of west wing wall of highway bridge over street; aluminum tablet stamped "888 PITTS"	888.025

FREEPORT QUADRANGLE.

Edgecliff along highway east via McLaughlinsville (Merwin) to Paulton.

Edgecliff, 400 feet south of station, in north abutment, east side of bridge over creek; bronze tablet stamped "764 PITTS 1899"	763.468
Edgecliff, 0.93 mile east of, in southeast corner of foundation of barn of F. E. Blair; point on projecting stone	806.79
Merwin, in northeast corner of foundation of house of Philip Love; aluminum tablet stamped "1244 PITTS 1903"	1,244.127
Paulton, county bridge, in southwest wing wall; copper bolt	809.532
Paulton, county bridge, in northeast corner of west abutment; aluminum tablet stamped "810 PITTS 1903"	809.364

Leechburg northeast along highway (Kittanning road) to Rosston.

Leechburg, wagon bridge spanning Kiskiminitas Creek, on northeast corner stone; bronze tablet stamped "789 PITTS"	788.625
Neale post office, 1 mile south of, 50 feet south of coal drift on right side of road, in sewer stone; aluminum tablet stamped "984 PITTS"	984.044

Mercer, Neshannock, and Youngstown (Ohio-Pa.) quadrangles.

LAWRENCE AND MERCER COUNTIES.

The elevations in the following list are based upon leveling in the Newcastle quadrangle from Enon and Homewood. The leveling was done in 1905 by J. H. Wetzel.

NESHANNOCK QUADRANGLE.

Near Edenburg.

	Feet.
Edenburg, 2 miles west of, on southeast pier of switch tower of Pittsburgh & Lake Erie Railroad, and 2,000 feet west of Carbon brick works; bronze tablet stamped "801 ADJ 1903"	800.662

New Castle north along Pennsylvania Railroad to New Wilmington, thence northwest along railroad to Sharpsville.

Eastbrook, on southeast bridge seat of highway bridge; bronze tablet stamped "904 ADJ 1903"	903.644
Wilmington Junction, 1,200 feet northeast of, on northwest bridge seat of railroad bridge over Neshannock River; bronze tablet stamped "931 ADJ 1903"	930.853
New Wilmington, 1,800 feet east of, on northwest wing wall of iron highway bridge over Neshannock River; bronze tablet stamped "957 ADJ 1903"	956.650
New Wilmington, street crossing at station; top of rail	970.5
Lyle, road crossing at station; top of rail	1,010.6
Carbon, road crossing at station; top of rail	1,040.4
Bethel, 700 feet east of, northwest wing wall of iron highway bridge; bronze tablet stamped "1071 ADJ 1903"	1,070.270
Neshannock, road crossing at station; top of rail	1,101.5
Oakland, road crossing at station; top of rail	1,129.3
Hermitage, road crossing at station; top of rail	1,096.1
Hermitage, on stone door step at entrance to school; aluminum tablet stamped "1099 ADJ 1903"	1,098.930

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New Wilmington northeast along highway to Mercer, thence west to Hermitage.

	Feet.
Mercer, 3 miles southwest of, in northeast corner of Shannon's residence; aluminum tablet stamped "1316 ADJ 1903"	1,315.637
Charlestown (Hill post office), on south side of street, at intersection of streets; aluminum tablet stamped "1263 ADJ 1903" (primary traverse station No. 1)	1,262.496

New Castle northwest along Pennsylvania Railroad to Wheatland.

New Castle, north wing wall of west abutment of Washington Street Bridge; aluminum tablet stamped "808 PITTSBURG 1901"	807.239
New Castle, southeast abutment of small culvert near yard limit; railroad bench mark	805.30
New Castle, 4 miles north of, iron wagon bridge known as Harber Bridge, northwest corner stone of bridge seat; bronze tablet stamped "807 ADJ 1903"	806.333
Nashua Junction, on southwest abutment of small railroad culvert; bronze tablet stamped "810 ADJ 1903"	809.255
Pulaski, on southwest abutment of iron highway bridge; bronze tablet stamped "828 ADJ 1903"	827.378
West Middlesex, in northwest wing wall of iron highway bridge; bronze tablet stamped "841 ADJ 1903"	840.880

YOUNGSTOWN QUADRANGLE.

Wheatland north along Pennsylvania Railroad to Sharpsville.

Wheatland, 0.25 mile west of, on southeast bridge seat of iron highway bridge over Shenango River; bronze tablet stamped "842 ADJ 1903"	841.547
South Sharon, in front of station; top of rail	852.2
Sharon, near high school building, on northeast abutment of iron highway bridge over Shenango River; bronze tablet stamped "856 ADJ 1903"	855.721

MERCER QUADRANGLE.

At Mercer (by circuit New Wilmington to Hermitage).

Mercer, on northeast corner of courthouse steps; aluminum tablet stamped "1277 ADJ 1903"	1,276.839

Beaver, Butler, Newcastle, New Kensington, and Zelienople quadrangles.

BEAVER, BUTLER, AND LAWRENCE COUNTIES.

The descriptions of bench marks in the Newcastle quadrangle are reprinted from Bulletin 288, page 49, with corrected elevations; the work in Butler, New Kensington, and Zelienople quadrangles is based upon bench marks at Bartley, Chicora, and Downieville, described in the same bulletin, pages 40 and 46. The previously published elevations for Bartley and Downieville were decreased 0.2 foot to agree with the 1907 adjustment of the Baltimore & Ohio Railroad precise level line.

The leveling in the Beaver and Newcastle quadrangles was done in 1901 by Ira M. Flocker, except that at Frisco. The leveling at Frisco and that in the Butler, New Kensington, and Zelienople quadrangles was done in 1907 by C. B. Burns.

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NEW KENSINGTON QUADRANGLE.

Bench marks established at West Saxonburg.

	Feet.
West Saxonburg, in front of station; top of rail	1,140.2
West Saxonburg, 0.2 mile north of, west side of railroad, 40 feet from center of track, in sandstone outcrop; aluminum tablet stamped "1145 ADJ 1903"	1,144.612

BEAVER QUADRANGLE.

Beaver west along highways via Dawson triangulation station to Black Hawk, thence south via Fairview to Industry.

Beaver, Pittsburgh & Lake Erie Railroad bridge over Ohio River, land pier on right shore of river, 3 inches below top of nineteenth course of stone from top of pier and 3 feet east of west side of pier; seat on southwest end of land pier marked thus: "U.S. B.M." (United States Corps of Engineers' bench mark "25 C")	686.444
West Bridgewater, west-bound track at Pennsylvania Lines station; top of north rail	708.7
Beaver, in foundation stone east of entrance to courthouse; aluminum tablet stamped "798 PITTSBURG"	797.654
Black Hawk, at crossroads, at corner of barn, on large rock; aluminum tablet stamped "1169.3 PITTSBURG"	1,169.013
Industry, railroad bridge 117 over State road, south end of west abutment, in end of second stone from top; bronze tablet stamped "696 PITTSBURG"	696.060
Industry, 600 feet above landing, 400 feet above Safe Harbor ferry landing, on left shore of river, on large rock under bank; seat cut (United States Corps or Engineers' bench mark "32 B")	673.344

Industry south along highways via Hookstown to Kendall, thence east to Patton's Bridge, thence northeast via New Sheffield to Woodlawn.

Hookstown, stone bridge on Washington road over small stream, on southwest corner (corner by the Robertson House); aluminum tablet stamped "988.6 PITTSBURG"	988.220
Kendall, 1 mile east of (about 5 miles southeast of Hookstown), on Big Traverse Creek, red brick house of James Buchanan, in foundation stone; aluminum tablet stamped "1069.7 PITTSBURG"	1,069.360
Clinton, 4 miles northwest of, 6 miles northeast of Frankfort Springs, in south end of west abutment of Patton's bridge over Raccoon Creek; aluminum tablet stamped "848"	847.022
New Sheffield, in northeast corner of Johnston's mill; aluminum tablet stamped "943.7 PITTSBURG"	943.666

At Freedom (set from Pennsylvania Railroad levels, corrected).

Freedom, northwest corner east bridge seat of bridge 20½; railroad bench mark	703.445
Freedom, at northeast corner of railroad bridge over Eighth Street, on wing wall; aluminum tablet stamped "701 PITTS"	701.049

BUTLER QUADRANGLE.

Rockdale north along Bessemer & Lake Erie Railroad to Butler, thence northeast along Baltimore & Ohio Railroad to Chicora.

Rockdale, in sandstone abutment of bridge over county road; aluminum tablet stamped "1056 ADJ 1903"	1,056.263
McBride, road crossing; top of rail	952

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	Feet.
McBride, 0.6 mile north of, 60 feet from center of track, on west side of railroad, in sandstone wing wall of county bridge; aluminum tablet stamped "985 ADJ 1903"	984.987
Odell, on east side of railroad, in sandstone outcrop; aluminum tablet stamped "1016 ADJ 1903"	1,015.851
Butler, Butler County National Bank, at entrance, at northeast corner of building, in sandstone pillar; aluminum tablet stamped "1077 ADJ 1903".	1,077.080
East Butler, 0.2 mile north of, 60 feet west of Baltimore & Ohio Railroad, in sandstone abutment of plate-girder bridge of Buffalo, Rochester & Pittsburg Railway; aluminum tablet stamped "1028 ADJ 1903"	1,028.025
Carbon Center, 1.3 miles north of, northwest corner of railroad bridge, in sandstone abutment; aluminum tablet stamped "1123 ADJ 1903"	1,122.461
North Oakland, road crossing, top of rail	1,326

Butler southeast along Pennsylvania Railroad to Brinker station.

Brinker, road crossing at station; top of rail	1,232.0
Brinker station, 300 feet east of station, south side of road, in sandstone culvert; aluminum tablet stamped "1232 ADJ 1903"	1,231.949

Butler northwest along Bessemer & Lake Erie Railroad to Queen Junction.

Butler, 3.5 miles north of, in concrete abutment of railroad bridge, southeast corner of bridge; aluminum tablet stamped "1021 ADJ 1903"	1,021.302
Oneida, road crossing, top of rail	1,030
Oneida, 1.9 miles north of, in northeast corner of railroad bridge abutment; aluminum tablet stamped "1110 ADJ 1903"	1,109.409
Jamisonville, in front of station, top of rail	1,169.2
Queen Junction, at junction of Bessemer & Lake Erie and Western Allegheny railroads, in concrete abutment of railroad bridge; aluminum tablet stamped "1226 ADJ 1903"	1,225.945

ZELIENOPLE QUADRANGLE.

Downieville northwest along Baltimore & Ohio Railroad to Frisco.[1]

Callery Junction, street crossing; top of rail	974.8
Callery Junction, 0.8 mile west of, north side of railroad, in concrete abutment of trolley bridge; aluminum tablet stamped "988 ADJ 1903"	988.061
Evans City, 70 feet east of station, north side of railroad, in sandstone abutment of county bridge; aluminum tablet stamped "939 ADJ 1903"	939.159
Harmony, in sandstone door stoop of high-school building; aluminum tablet stamped "925 ADJ 1903"	925.444
Zelienople, at road crossing; top of rail	908
Old Furnace, 0.4 mile west of, southeast corner of railroad bridge, in sandstone abutment; aluminum tablet stamped "896 ADJ 1903"	895.694
Fombell, road crossing, top of rail	886
Gohering, road crossing; top of rail	875
Celia, northwest corner of railroad bridge, in concrete mud wall; aluminum tablet stamped "875 ADJ 1903"	874.831
Hazen, road crossing; top of rail	869
McKimms, road crossing; top of rail	866
North Sewickley, in front of station; top of rail	885

[1] Baltimore & Ohio Railroad bench marks have been destroyed on this route, and a connection with Ellwood City bench marks of the Baltimore & Ohio Railroad should be made to check these elevations.

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Harmony north along highways to Isle, thence east along railroad to Queen Junction.

	Feet.
Whitestown, 5.5 miles south of, in sandstone wing wall of county bridge, northwest end of bridge; aluminum tablet stamped "938 ADJ 1903"	938.147
Whitestown, 1.7 miles south of, at sharp bend, 30 feet west of center of road, in stone outcrop; aluminum tablet stamped "1206 ADJ 1903"	1,206.479
Prospect, in sandstone steps at door of public school building; aluminum tablet stamped "1369 ADJ 1903"	1,369.148
Isle, in foundation of private house owned by E. A. Watson, stone foundation; aluminum tablet stamped "1189 ADJ 1903"	1,189.129

Frisco northeast along highways to Prospect.[1]

Wortemburg, north end of town, at county bridge over Slippery Creek, in sandstone abutment; aluminum tablet stamped "851 ADJ 1903"	850.231
Wortemburg, 3.2 miles north of, 100 feet from center of road, on west side of road, in sandstone foundation of large barn; aluminum tablet stamped "1278 ADJ 1903"	1,277.486
Wortemburg, 5.6 miles north of, 50 feet west of road at road fork east, in sandstone foundation of private house; aluminum tablet stamped "1321 ADJ 1903"	1,320.452
Portersville in front of Kennedy Hotel, in large round sandstone; aluminum tablet stamped "1381 ADJ 1903"	1,380.550
Portersville, 2.8 miles east of, road fork on north, in front of Oak Grove schoolhouse, in sandstone bowlder; aluminum tablet stamped "1403 ADJ 1903"	1,402.449

Portersville northwest along highways 2.8 miles and return.

Portersville, 2.8 miles northwest of, on east side of road, in sandstone bowlder; aluminum tablet stamped "1191 ADJ 1903"	1,190.324

NEWCASTLE QUADRANGLE.

At Frisco.

Frisco, 0.2 mile west of, in northeast corner of railroad bridge, in sandstone mud wall, at east end of tunnel; aluminum tablet stamped "894 ADJ 1903"	893.726
Frisco, at road crossing; top of rail	892

New Galilee southwest along railroad to Darlington and return.

New Galilee, northeast corner of east back wall of bridge 42 (bench mark 2116, Pennsylvania Railroad precise leveling)	959.265
New Galilee, 1 mile southwest of, Pittsburgh, Lisbon & Western Railroad bridge over Little Beaver River; northeast corner of south abutment	930.92
Darlington, intersection of Market and Second Streets, in front of Darlington Hotel, on top of stone; bronze tablet stamped "912.5 PITTSBURG 1901"	911.777

At Beaver Falls.

Beaver Falls, corner of doorsill of station (bench mark 1596, Pennsylvania Railroad precise leveling)	789.374
Beaver Falls, Pennsylvania Railroad bridge over Eleventh Street, west end of south abutment, in coping stone; aluminum tablet stamped "789.9 PITTSBURG 1901"	789.485

[1] One foot adjustment thrown at beginning of this line.

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Enon north along highway via Mount Jackson to Newcastle, thence southeast along Pittsburgh & Lake Erie Railroad via Wampum to Homewood.

	Feet.
Enon, corner of water table at station (bench mark 2385 Pennsylvania Railroad precise leveling)	995.149
Enon, 400 feet south of railroad tracks, on Main Street, in top of county-line stone; bronze tablet stamped "1013.4 PITTSBURG 1901"	1,012.701
Mount Jackson, at post office, 60 feet north of street intersection, in side of square stone hitching post; bronze tablet stamped "1165 PITTSBURG"	1,164.301
Mahoningtown, highway bridge over Mahoning River, on wing wall of south abutment, nearest Pittsburg and Lake Erie Railroad track; seat cut in corner	785.527
Mahoningtown, in front of station, Pittsburgh & Lake Erie Railroad southbound track; top of north rail	779.1
Newcastle, in front of station; top of rail	806
Wampum, in front of station; top of rail	802.8
Wampum, 500 feet south of station, northeast corner of arch bridge over Wampum Run, on coping stone; aluminum tablet stamped "804.7 PITTSBURG"	804.200
Homewood, top step of northeast wing wall of bridge 38 (bench mark 1840, Pennsylvania Railroad)	949.950

Franklin, Hilliards, Mercer, and Stoneboro quadrangles.

MERCER AND VENANGO COUNTIES.

For additional elevations in the Franklin and Hilliards quadrangles refer to precise-level line, Erie to Pittsburgh.

Most of the leveling was done in 1908 by H. W. Peabody and William Oram. Additional leveling in the Hilliards and Mercer quadrangles was done by James Rayburn in 1910 and in the Mercer quadrangle by Howard Mellinger in 1911.

FRANKLIN QUADRANGLE.

Sugar Creek north along highways to Cooperstown, thence east to Twomile Run, thence southwest to Franklin.

	Feet.
Sugar Creek, 1,200 feet southeast of, in northeast end of abutment of railroad bridge; bronze tablet stamped "1013 PITTSBURG 1899"	1,013.628
Sugar Creek, 1.0 mile north of, a southeast corner of bridge at road forks; chisel mark	1,043.99
Wyattville, driveway to house on east side of road at T road west; chisel mark on curb	1,057.64
Cooperstown, 3.0 miles south of, in top of wing wall at southwest corner of iron bridge over Sugar Creek; aluminum tablet stamped "1084 1908"	1,083.773
Cooperstown, 2.0 miles south of, in south root of 18-inch black oak at northwest corner of T road west; nail	1,101.25
Cooperstown, 0.8 mile south of, on rock at northwest corner of road forks by schoolhouse; chisel mark	1,121.04
Cooperstown, north end of town, in hotel yard, at southwest corner of crossroads; iron post stamped "1146 1908"	1,145.759
Cooperstown, on wing wall at northeast corner of bridge over Sugar Creek; chisel mark	1,130.78
Cooperstown, 2.5 miles east of, on large rock at east side of road, 50 feet north of road to west; chisel mark	1,486.37

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	Feet.
Oakland schoolhouse, 2.0 miles south of Dempseytown, in north face of northwest corner of schoolhouse at southwest corner of crossroads; aluminum tablet stamped "1529 1908"	1,528.773
Oakland schoolhouse, 1.0 mile east of, on rock at southwest corner of road forks; chisel mark	1,397.32
Pritchard schoolhouse, 2.0 miles southeast of Dempseytown, in east face of southeast corner of schoolhouse; aluminum tablet stamped "1251 1908"	1,250.968
Pritchard schoolhouse, 0.5 mile south of, on rock at center of road forks; chisel mark	1,329.96
Pritchard schoolhouse, 1.5 miles south of, on stone on west side of road forks; chisel mark	1,240.01
Pritchard schoolhouse, 2.5 miles south of, on stone at southwest corner of bridge over West Fork at road forks; chisel mark	1,149.71
Eclipse, 2.5 miles north of station, in stone at northwest corner of bridge over Twomile Run; aluminum tablet stamped "1100 1908"	1,099.550
Eclipse, 0.5 mile east of, in bridge seat at southeast corner of Erie Railroad bridge over Twomile Run; aluminum tablet stamped "981 1908"	981.103
Franklin, in belt course of Erie Railroad station, northeast corner; aluminum tablet stamped "989 PITTSBURG 1899"	989.349
Franklin, 40 feet south of Pennsylvania Railroad tracks, 70 feet west of station; iron post stamped "Prim. Trav. Sta. No. 5"	984.737

Franklin west along Lake Shore & Michigan Southern Railway to county line.

Miles station, in top of concrete retaining wall at southwest corner of railway and road crossing, near right of way; aluminum tablet stamped "1151 1908"	1,151.476
Polk, in south face of southeast corner of administration building of State Institute for Feeble-Minded; aluminum tablet stamped "1116 1908"	1,116.099
Polk, 1.0 mile west of, on wing wall at northeast corner of road bridge over Big Sandy Creek, 300 feet north of railroad; chisel mark	1,069.83
Raymilton, in top of northwest corner of concrete culvert, about 100 feet east of undergrade road crossing; aluminum tablet stamped "1123 1908"	1,123.385

Raymilton south to point near Wesley.

Raymilton, 0.8 mile south of, on large rock at southwest corner of crossroads; chisel mark	1,310.02
Raymilton, 2.5 miles south of, 0.5 mile north of South Sandy Creek, at northwest corner of bend to west; point on rock	1,400.67
Raymilton, 3.0 miles south of, in bridge seat at northwest corner of small wooden bridge over South Sandy Creek, 100 feet south of T road west; aluminum tablet stamped "1196 1908"	1,195.772

Kennerdell station southwest 2 miles.

Kennerdell, 1.5 miles south of, 300 feet west of milepost 106, 10 feet north of center of track, 2.4 feet above rail, in large bowlder; bronze tablet stamped "941 PITTSBURG 1899;" nothing left of this tablet but the shaft	942.373

Utica northwest to railroad bridge.

Utica, 300 feet south of station, in east abutment, north side of highway bridge; bronze tablet stamped "1038 PITTSBURG 1899"	1,038.323
Utica, 2.25 miles north of, on stone at southwest corner of railroad bridge; chisel mark	1,041.79

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STONEBORO QUADRANGLE.

Point near Utica northwest to Carlton, thence west along highway to Sunol, thence southwest to Hadley.

	Feet.
Carlton, in top stone at northeast corner of road bridge over French Creek; aluminum tablet stamped "1052 1908"	1,052.034
Milledgeville, in south face of southwest corner of Presbyterian Church, 500 feet east of crossroads; aluminum tablet stamped "1280 1908"	1,279.937
Milledgeville, 1.0 mile west of, on rock at northwest corner of crossroads; chisel mark	1,423.13
Milledgeville, 1.8 miles west of, on rock at southeast corner of road to south; chisel mark	1,325.79
Sunol, 1.0 mile east of, on rock at southwest corner of crossroads; chisel mark	1,380.15
Sunol, 4.0 miles northeast of Sheakleyville, in west face of southwest corner of J. F. Turner's dwelling at road forks by store; aluminum tablet stamped "1408 1908"	1,407.808
Sandy Creek, on rock at southwest corner of small iron bridge over; chisel mark	1,194.69
Sheakleyville, in south face of southeast corner of U. P. Church at south edge of village; aluminum tablet stamped "1282 1908"	1,282.351

Point on county line near Raymilton west along Lake Shore & Michigan Southern Railway to Hadley.

Raymilton, 2.0 miles west of, on top of parapet wall at northeast corner of railroad bridge 227 over road (road elevation, 1,136 feet); chisel mark	1,153.90
Sandy Lake, 2.0 miles east of, on large bowlder at northwest corner of road crossing; chisel mark	1,157.97
Blairs crossing, 1.0 mile east of Sandy Lake, in bridge seat at southeast corner of iron bridge over Big Sandy Creek, about 30 feet north of railroad; aluminum tablet stamped "1153 1908"	1,153.128
Stoneboro, in foundation stone 1.7 feet above step at left side of entrance to First National Bank at northeast corner of Lake and Walnut streets; aluminum tablet stamped "1184 1908"	1,184.519
Clarks Mills station, in next to top stone in back wall at northwest corner of railroad bridge over Little Shenango River, 500 feet east of station; aluminum tablet stamped "1160 1908"	1,160.122
Hadley, in bridge seat at northwest corner of iron bridge over Little Shenango River; aluminum tablet stamped "1049 1908"	1,048.072
Kashner, 3.0 miles north of, in northwest wing wall of iron bridge spanning Otter Creek; aluminum tablet stamped "1005"	1,005.329

Stoneboro southwest along Pennsylvania Railroad to Turners.

Lyon, 0.5 mile north of, 200 feet east of railroad, in north face of northwest corner of Center schoolhouse; aluminum tablet stamped "1385 1908"	1,384.870
Jackson Center, 1.0 mile north of station, about 500 feet north of crossing, on northwest corner of concrete bridge	1,266.71
Jackson Center, 0.4 mile north of station, on rock at northeast corner of crossing; chisel mark	1,263.03
Turners, 0.5 mile north of station, in wing wall at southeast corner of small iron bridge of Pennsylvania Railroad; aluminum tablet stamped "1133 1908"	1,132.597

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Millbrook northwest along highway to Jackson Center.

	Feet.
Bowie schoolhouse, near southwest corner of, at northwest corner of road to north; iron post stamped "Prim. Trav. Sta. No. 1"	1,378.415
Jackson Center, 0.8 mile east of, on bridge seat at southeast corner of iron bridge at crossroads by railroad; chisel mark	1,275.55
Jackson Center, in south face of water table at southeast corner of C. P. Church at east end of village; aluminum tablet stamped "1318 1908"	1,317.633

HILLIARDS QUADRANGLE.

Queen Junction north along road to Branchton, thence east via Annandale and Northhope to Bruin.

Queen Junction, 0.7 mile north of, east of north-bound track, base of switch signal, letter "s" in word "works"; painted "1249"	1,248.77
Sherwin, 0.2 mile south of, 100 feet south of abandoned coal mine west of south-bound track, emergency rail rack, most southerly of three posts; piece of iron in post, painted "1274"	1,274.18
Sherwin, 250 feet along highway west of railroad, 20 feet west of house of Peter Sherwin, in bowlder at side of road; aluminum tablet stamped "1286 ADJ 1903"	1,285.737
Claytonia, in front of station; top of rail	1,236.2
Halston, 0.5 mile north of, 50 feet east of railroad along highway, in bowlder at roadside; aluminum tablet stamped "1196 ADJ 1903"	1,196.103
Keister, in front of station; top of rail	1,183.5
Branchton, in front of station; top of rail	1,196.2
Branchton, 100 feet back of station, in concrete foundation under porch of house of Ames Hall; aluminum tablet stamped "1190 ADJ 1903"	1,189.863
Bovard, in front of station; top of rail	1,190.9
Bovard, 2.4 miles east of, 200 feet south of track, in field of James M. Hogg, in bowlder; aluminum tablet stamped "1193 ADJ 1903"	1,192.720
Annandale, at station, grade crossing; top of rail; painted "1202"	1,202.4
Annandale, 300 feet south of railroad, along highways, at residence of Reuben Byers, in retaining wall in front of house; aluminum tablet stamped "1214 ADJ 1903"	1,214.084
Hilliards, 0.1 mile north of station, at grade crossing, 100 feet north of track, at rear of M. E. Church, in foundation stone; aluminum tablet stamped "1264 ADJ 1903"	1,263.721
Hilliards, 0.9 mile south of, halfway to summit, on bowlder painted "1420"; chisel mark	1,420.29
Northhope, 1.2 miles north of, at intersection of roads, at fence, on rock painted "1457"; chisel mark	1,457.56
Northhope, 0.8 mile north of, at intersection of roads, 200 feet east of church, in root of tree painted "1488"; tacks	1,488.26
Northhope, at crossroads, in foundation stone on west side of store, building owned by Julia Henden; aluminum tablet stamped "1503 ADJ 1903"	1,503.094
Northhope, 0.7 mile east of, southeast corner of bridge in hollow, on stone abutment painted "1365"; chisel mark	1,365.68
Bruin, 3.4 miles west of, at intersection of Bruin, Glenora, and North Hope roads, in bowlder at vertex of Y; aluminum tablet stamped "1278 ADJ 1903"	1,277.824
Bruin, in southeast wing wall of iron bridge over Little Bear Creek; aluminum tablet stamped "1092"	1,091.846

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Annandale north along road to Bullion.

	Feet.
Murrinsville, 300 feet west of crossroads, north side of road, in stone steps at front of residence of James C. Murrin; aluminum tablet stamped "1441 ADJ 1903"	1,441.088
Murrinsville, 2 miles north of, in hollow, 5 feet south of bridge, at side of road, on stone painted "1414"; chisel mark	1,413.88
Clintonville, 1.5 miles south of, 130 feet south of intersection on east side of road, in stone steps west of house of W. C. Hovis; aluminum tablet stamped "1467 ADJ 1903"	1,466.989
Clintonville, 0.9 mile south of, 100 feet south of T road west, on west end of stone culvert painted "1467"; chisel mark	1,467.05
Clintonville, at crossroads, at southeast corner, on flagstone crossing painted "1435"; chisel mark (disturbed August 7, 1909)	1,437.88
Clintonville, 2 miles north of, on summit, east side of road, in foundation stone on south side of residence of I. J. Clay; aluminum tablet stamped "1442 ADJ 1903"	1,442.090
Bullion, 1.5 miles south of, at brow of hill, at side of road on stone painted "1383"; chisel mark	1,383.45
Bullion, in foundation (1 foot above ground) in center of north side of J. A. Dewoodey's store building, 50 feet south of road forks; aluminum tablet stamped "1466 1908"	1,465.725

Centertown south along highways to point 1.7 miles north of Harrisville.

Millbrook, 3.5 miles east of, on south side of T road north; iron post stamped "Prim. Trav. Sta. No. 2, 1473"	1,472.755
Wesley, 1.7 miles northwest of, northeast corner of crossroads at north end of town; chisel mark on rock marked "1503"	1,503.41
Wesley, 1 mile northwest of, at road north; chisel mark on rock marked "1545"	1,545.00
Wesley, 0.25 mile northwest of, south side of road, 300 feet west of house to south; chisel mark on large rock marked "1494"	1,493.93
Wesley, crossroads at north end of town, on stone culvert on Pittsburgh and Franklin road; chisel mark with figures "1422"	1,422.03
Wesley, on culvert opposite blacksmith shop; chisel mark with figures "1439.5"	1,439.43
Wesley, in stone step to front porch of Huffman's Hotel; aluminum tablet stamped "1438 1910"	1,437.833
Wesley, 1 mile south of, east side of road, house to east; chisel mark in stone marked "1376"	1,375.65
Wesley, 1.2 miles south of; chisel mark in bridge seat of bridge over small stream at turn to east; marked "1360"	1,359.70
Barkeyville, 1.3 miles north of, at southwest corner of crossroads; chisel mark on rock marked "1417"	1,416.63
Barkeyville, 1 mile north of, in wing wall of steel bridge; chisel mark with figures "1365"	1,364.81
Barkeyville surface of water under steel bridge; July 25, 1910	1,356
Barkeyville, 0.6 mile north of, southeast corner of T road east; chisel mark in rock marked "1421.749"	1,421.76
Barkeyville, 0.4 mile north of, northwest corner of T road west; chisel mark in rock marked "1434.851"	1,434.75
Barkeyville, in northeast corner of east face of foundation of Evangelical Church; aluminum tablet stamped "1479 1910"	1,479.318
Barkeyville, 0.2 mile south of, northwest corner of crossroads at Beaty's store; chisel mark on culvert, marked "1427.945"	1,427.83

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	Feet.
Beaty's store, 0.8 mile south of; chisel mark in wing wall at small bridge, marked "1318.726"	1,318.60
Barkeyville, 1 mile south of, on summit of hill, house to east; chisel mark on rock marked "1357.980"	1,357.85
Barkeyville, 1.5 miles south of, at T road east; chisel mark in rock marked "1316.794"	1,316.65
Harrisville, 2 miles north of, southeast corner of crossroads; chisel mark on rock marked "1423.185"	1,423.01
Harrisville, 1.7 miles north of, in southwest corner of south face of foundation to White Oak schoolhouse; aluminum tablet stamped "1428 1910"	1,428.069

Point 0.5 mile south of Harrisville southeast along Bessemer & Lake Erie Railroad to Branchton.

Branchton, 100 feet back of station, in concrete foundation under porch to house of Ames Hall; aluminum tablet stamped "1190 ADJ 1903"	1,189.863

Kennerdell west along highway to county line.

Kennerdell, 2.5 miles southwest of station, in top of wing wall at northeast corner of iron highway bridge over Scrubgrass Creek at Pump station; aluminum tablet stamped "Prim. Trav. Sta. No. 3 1029"	1,029.360
Kennerdell, 3.5 miles west of, on rock at southwest corner of private road to left; chisel mark	1,308.28
Pike schoolhouse, 0.5 mile east of, 1.8 miles west of Bullion, 600 feet west of culvert, on fence corner stone; chisel mark	1,411.900
Wesley, 1.0 mile north of, on Pittsburg and Franklin road, in east face of southeast corner foundation of J. C. Allen's house at southwest corner of crossroads; aluminum tablet stamped "1443 1908"	1,443.594
Millbrook, 3.5 miles east of, on south side of road at T road north; iron post stamped "Prim. Trav. Sta. No. 2 1473"	1,472.755

MERCER QUADRANGLE.

County line west along highway to Millbrook.

Millbrook, 2.0 miles east of, on culvert stone at northeast corner of crossroads by schoolhouse; chisel mark	1,406.34
Millbrook, 1.5 miles east of, on top stone at northwest corner of small iron bridge; chisel mark	1,336.70
Millbrook, in bridge seat at southwest corner of iron bridge between road forks at west edge of town; aluminum tablet stamped "1306 1908"	1,306.560

Turners southwest along Pennsylvania Railroad to Mercer.

Mercer, in bridge seat at southwest corner of Pennsylvania Railroad bridge over Otter Creek, about 1,000 feet north of station; aluminum tablet stamped "1097 1908"	1,097.391
Mercer, northeast corner of courthouse steps; aluminum tablet stamped "1277 ADJ 1903." (This elevation was taken about 6 inches from the place where the tablet was set, on the same stone, the tablet having been removed when a part of the step was broken off in clearing up débris after the courthouse was burned	1,276.839

Point 1.7 miles north of Harrisville south along highways 2.2 miles.

Harrisville, 1 mile north of, in third stone step from top of steps leading from road to yard of Fuhrer's house; chisel mark with figures "1342"	1,341.72
Harrisville, 0.5 mile north of, on rock at northwest corner of T road west; chisel mark marked "1339.4"	1,339.22
Harrisville, north end of town; chisel mark on culvert, marked "1301.9"	1,301.66

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	Feet.
Harrisville, schoolhouse yard; iron post stamped "Prim. Trav. Sta. No. 11, 1908, 1314"	1,313.677
Harrisville, south edge of town, on northeast wing wall of iron bridge at T road west; chisel mark, with figures "1302.525"	1,302.31
Harrisville, 1 mile south of, on coping of concrete bridge over Cranberry Run; marked "1280"	1,279.79
Harrisville, northeast corner of bridge seat of railroad bridge; chisel mark, with figures "1327.6"	1,327.28
Harrisville, 0.25 mile south of, 600 feet east of railroad, northwest corner of north foundation wall of Sunnyside schoolhouse; aluminum tablet stamped "1330 1910"	1,329.286

Millbrook along highway southwest and south to point near Grove City, thence northwest to Mercer.

Milbrook, in bridge seat at southwest corner of iron bridge between road forks at west edge of town; aluminum tablet stamped "1307 1908"	1,306.560
Perrys Corners, 3 miles north of, at northeast angle of T road east; chisel mark on rock marked "1303"	1,302.58
Perrys Corners, 2.2 miles north of, four corners, 100 feet west of corner, on north side of road; chisel mark on stone under fence, marked "1335"	1,335.29
Perrys Corners, 1.5 miles north of, northwest angle of four corners; chisel mark on rock marked "1359"	1,359.43
Perrys Corners, 0.1 mile north of, in bridge seat at southwest corner of iron bridge over Perrys Run; aluminum tablet stamped "1256 PA"	1,255.791
Perrys Corners, 0.2 mile south of, on east side of road opposite T road west; chisel mark on bowlder marked "1283"	1,283.27
Perrys Corners, 1.3 miles west of, at southeast corner of crossroads; chisel mark on bowlder marked "1319"	1,319.29
Cranberry schoolhouse, 2 miles northwest of Grove City, in water table at east corner; aluminum tablet stamped "1282 PA"	1,281.588
George Junior Republic, at northwest angle of four corners; chisel mark on stone marked "1291"	1,290.65
McDowells Corner, Chestnut Ridge, in rock at northeast corner of crossroads; aluminum tablet stamped "1336 PA"	1,335.654
Mercer, 2.5 miles southeast of, in southwest corner of crossroads, on top of concrete wall over culvert; aluminum tablet stamped "1352 PA"	1,351.871
Mercer, at southwest corner of highway bridge over Otter Creek, on bridge seat; chisel mark, with figures "1097"	1,097.38

Grove City along highway southeast and east to Harrisville.

Grove City, Carnegie Library at corner of Broad and Main streets, in face of western wall at north side of steps about 3 feet above ground; aluminum tablet stamped "1256"	1,256.237
Swamproot, about 300 feet east of fork in road at west edge of town, on top of concrete wing wall at southwest corner of iron bridge; aluminum tablet stamped "1262"	1,261.888
Swamproot, 300 feet east of fork of road at west end of town, on top of concrete wing wall at southwest corner of iron bridge; chiseled mark, marked	1,261.87
Swamproot, at east end of town, in bridge seat at southwest corner of iron bridge about 200 feet east of grade crossing of Bessemer & Lake Erie Railroad; chisel mark, marked "1263"	1,263.24
Harrisville, 1.1 miles west of, in southwest angle of four corners, on top of concrete wall over culvert; paint mark "1324"	1,323.49
Harrisville, schoolhouse yard; iron post stamped "Prim. Trav. Sta. No. 11, 1908, 1314"	1,313.677

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Branchton along highway west to Slippery Rock, thence southwest to Elliot's Mill, thence north to Plaingrove, thence west to Jordan schoolhouse, thence north to Otter Creek, thence along Pennsylvania Railroad to Mercer.

	Feet.
Branchton, 100 feet back of station, in concrete foundation under porch of house of Amos Hall; aluminum tablet stamped "1190 ADJ 1903"	1,189.863
Branchton, 1 mile west of, on north side of road, about 50 feet east of four corners; chisel mark on face of rock marked "1352"	1,351.66
Slippery Rock, 1.4 miles east of, in southwest angle of four corners; chisel mark on large stone marked "1338"	1,338.01
Slippery Rock, 0.7 mile east of, in angle of fork in road; chisel mark on large bowlder marked "1410"	1,409.73
Slippery Rock, in northeast corner of New Central Hotel, about 3 feet above ground; aluminum tablet stamped "1302"	1,301.777
Slippery Rock, 2.1 miles west of, in southwest corner at T road south; chisel mark on stone marked "1221"	1,221.43
Slippery Rock, 3.4 miles west of, in northwest angle of four corners, in water table in southeast corner of house of B. P. McConnel; aluminum tablet stamped "1168"	1,138.376
Plain Grove, 1.2 miles south of, about 500 feet east of four corners, on bridge seat at northeast corner of iron bridge over Jamison Run; chisel mark, with figures "1096"	1,095.97
Plain Grove, in Presbyterian Church, on stone about 3 feet above ground at right side of main entrance to church; aluminum tablet stamped "1174"	1,174.320
Plain Grove, 1.1 miles west of, in bridge seat at northeast corner of iron bridge over Taylor Run; chisel mark, with figures "1162"	1,161.73
Plain Grove, 1.3 miles west of, in southwest corner at T road south to Harlansburg; top of nail driven in base of large oak tree, marked "1181"	1,181.24
Plain Grove, 2.5 miles west of, in northeast corner of T road north, chisel mark on stone, marked "1260"	1,260.16
Jordan schoolhouse, about 1,400 feet south of, on east side of road, in northwest corner of barn of John Jordan, about 3 feet above ground; aluminum tablet stamped "1277"	1,277.264
Jordan schoolhouse, 0.1 mile north of, in southwest corner at T road west, on low stone; chisel mark, with figures "1315"	1,314.92
Jackson schoolhouse, in water table at southwest corner; aluminum tablet stamped "1355"	1,354.955
Leesburg, 2.2 miles south of, in northeast angle of four corners, on granite bowlder; chisel mark, with figures "1378"	1,377.98
Leesburg, 1.5 miles south of, on east side of road opposite T road west; chisel mark on bowlder marked "1363"	1,363.05
Leesburg, 0.6 mile south of, in northeast corner at T road east; chisel mark on bowlder marked "1294"	1,294.21
Leesburg, in Presbyterian Church, in water table at left side of entrance; aluminum tablet stamped "1305"	1,304.975
Leesburg, 0.8 mile north of, in northeast angle of four corners, on low stone; chisel mark, with figures "1204"	1,204.39
Leesburg, 1.7 miles north of, in bridge seat at southwest corner of iron bridge over Otter Creek; aluminum tablet stamped "1055"	1,054.808
Mercer, in bridge seat at southwest corner of Pennsylvania Railroad bridge over Otter Creek, about 1,000 feet north of station; aluminum tablet stamped "1097 1908"	1,097.391

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Linesville and Shenango quadrangles.

CRAWFORD AND MERCER COUNTIES.

The leveling in this area was done in 1906 by J. H. Wetzel.

SHENANGO QUADRANGLE.

Point near Jamestown south to Shenango, thence north to Atlantic.

	Feet.
Jamestown, 100 feet north of station, in east side of Griffin Hotel, right side of entrance; bronze tablet stamped "989"	[a] 988. 853
Jamestown, Bessemer & Lake Erie Railroad crossing; top of rail	983. 5
Greenville, in water table of Commercial Hotel, east end of side facing Main Street; bronze tablet stamped "961"	960. 726
Greenville, street crossing at Bessemer & Lake Erie Railroad station	950.
Greenville, Erie Railroad station, top of rail at street crossing	983.
Osgood, road crossing; top of rail	984.
Osgood (Amasa), 250 feet north of Erie Railroad station, in third tier of southeast abutment of iron railroad bridge; aluminum tablet stamped "976"	976. 075
Kennard, at road crossing near station; top of rail	1,040. 4
Kennard, 600 feet north of, in southeast abutment of railroad bridge; bronze tablet stamped "1041"	1,040. 806

Sharpsville north along Pennsylvania Railroad to Greenville.

Sharpsville, 300 feet north of station, in south end of east abutment of overhead wagon bridge; bronze tablet stamped "951"	950. 770
Clarksville, 400 feet south of station; floor of small bridge (railroad bench mark)	907. 77
Clarksville, 800 feet north of station, in southwest bridge seat of iron railroad bridge spanning Shenango Creek; aluminum tablet stamped "896"	895. 129
Transfer, at freight station, road crossing; top of rail	991. 1
Transfer, 800 feet north of station, in northeast bridge seat of small bridge; aluminum tablet stamped "989"	988. 641
Transfer, 3.2 miles north of, iron bridge 33 spanning Shenango Creek, in northwest bridge seat; aluminum tablet stamped "940"	939. 565
Tower, crossing of Erie Railroad; top of rail	937. 2

Jamestown south along highway via Meadows to transfer.

Jamestown, 2.8 miles, southwest of, in southeast corner of water table of John Motz's brick residence; aluminum tablet stamped "1095"	1,095. 138
Maysville (Meadows), in northwest corner of brick schoolhouse; aluminum tablet stamped "1045"	1,044. 932
Maysville, 4 miles south of, in step at north entrance to M. D. Artherhold's residence; aluminum tablet stamped "1105"	1,105. 043

Point near Mercer northwest along road to New Hamburg, thence north to point near Salem, thence west along railroad to Osgood.

Big Bend, in northeast wing wall of iron bridge spanning Shenango Creek; bronze tablet stamped "911"	911. 254
New Hamburg, south end of town, iron wagon bridge spanning small stream, in northwest bridge seat; aluminum tablet stamped "921"	920. 725
Kremis, at west entrance to store basement, in stone step; aluminum tablet stamped "1170"	1,170. 083

[a] Reported destroyed, 1912.

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	Feet.
Kashmer, at right side of east entrance to schoolhouse, in stone water table; aluminum tablet stamped "1298"	1,298.096
Kashmer, road crossing	1,282.6
Kashmer, 3 miles north of, in northwest wing wall of iron wagon bridge spanning Otter Creek; aluminum tablet stamped "1005"	1,005.329
Salem, 0.3 mile east of station, in northwest abutment of iron bridge spanning Little Shenango Creek; aluminum tablet stamped "987"	987.375
Salem, at road crossing; top of rail	994.8

LINESVILLE QUADRANGLE.

Conneautville southwest along Pennsylvania Railroad, Erie & Pittsburgh division, to Jamestown.

Summit, at road crossing; top of rail	1,143.8
Summit, in northeast corner of foundation of Isaac Lyman's residence; aluminum tablet stamped "1148"	1,148.084
Linesville, street crossing; top of rail	1,041.1
Linesville, 150 feet west of Pennsylvania Railroad, in southeast corner of brick Hotel Arlington; aluminum tablet stamped "1050"	1,049.759
Espyville, 100 feet west of station, in southeast foundation of Smith McGranahan's residence; aluminum tablet stamped "1094"	1,093.797
Westford, in southwest corner of J. N. Martin's store building; aluminum tablet stamped "1105"	1,104.693
Westford, 2.4 miles south of, in north side of west end of stone-arch bridge 23; aluminum tablet stamped "1028"	1,027.737

Atlantic north along Erie Railroad to Stony Point, thence east 2.8 miles, thence north along highway to Conneaut Lake, thence north along Bessemer & Lake Erie Railroad to Conneautville.

Atlantic, road crossing; top of rail	1,147
Atlantic, in southeast corner of foundation of Atlantic House, southwest of station; bronze tablet stamped "1141"	1,141.045
Unger (Shearer Run), in northwest corner of water-tank foundation; aluminum tablet stamped "1216"	1,215.719
Stony Point station, in southeast corner of foundation stone of water tank; bronze tablet stamped "1286" (stone is marked "1 1906")	1,285.492
Stony Point, road crossing; top of rail	1,283
Conneaut, Lake outlet, canal bench mark. (This description is not complete enough here to identify bench mark in Canal lists)	1,085.91
Conneaut Lake, in southeast wing wall of iron wagon bridge over Lake outlet; aluminum tablet stamped "1080"	1,079.814
Meadville Junction, 0.5 mile east of station, in southwest corner of foundation of Chas. Shakespear's residence; aluminum tablet stamped "1088"	1,087.867
Harmonsburg, 1 mile north of station, in southwest bridge seat; aluminum tablet stamped "1061"	1,061.099
Dicksonburg, road crossing near station; top of rail	1,014
Dicksonburg, 1 mile north of station, in northwest wing wall of iron wagon bridge; aluminum tablet stamped "1000"	1,000.114

Burgettstown, Claysville, and Steubenville quadrangles.

ALLEGHENY, BEAVER, AND WASHINGTON COUNTIES.

The elevations in the following list are based upon work in adjoining quadrangles of West Virginia and Pennsylvania.

The leveling was done mostly in 1904, but a portion of the work in Claysville quadrangle was done in 1905, by Mr. B. J. Green. Standard

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bench marks set in 1904 and 1905 in this area are stamped with the legend "ADJ 1903" and "ADJ" respectively, while those set previously in the Claysville and Steubenville quadrangles are stamped respectively "PITTS" or "STBNVL" in addition to figures of elevation.

BURGETTSTOWN QUADRANGLE.

McDonald along Pennsylvania Railroad [1] to Hanlin.

	Feet.
Primrose, 500 feet west of station, on south end of east abutment of bridge 24; chiseled square (railroad bench mark)	1,024.10
Midway, on north end of east abutment of bridge 25 over country road at west end of station; aluminum tablet stamped "1111 ADJ 1903"	1,110.666
Bulger, 0.3 mile west of, on catch-basin at northeast end of tunnel; chiseled square	1,156.64
Burgettstown, on south foundation wall of Burgettstown National Bank building; aluminum tablet stamped "1000 ADJ 1903"	999.180
Hanlin, on coping at northeast corner of bridge 32 over county road, 200 feet east of station; bronze tablet stamped "942 ADJ 1903"	942.181

Burgettstown north along highway via Murdocksville to Patton's Bridge.

Burgettstown, 2.6 miles northeast of, in south end of east abutment of iron bridge over Raccoon Creek, at forks to west; chiseled square	946.63
Bavington, 0.2 mile north of, on east end of south abutment of iron bridge over Raccoon Creek; aluminum tablet stamped "921 ADJ 1903"	920.874
Murdocksville, on north end of east abutment of iron bridge over Raccoon Creek; bronze tablet stamped "877 ADJ 1903"	877.083
Murdocksville, 2.5 miles north of, on south end of west abutment of iron bridge over Big Traverse Creek; chiseled square	845.47

Murdocksville east along highway to Clinton, thence northwest to Patton's Bridge.

Clinton, on foundation wall at southeast corner of J. E. McCullough's store and post office; bronze tablet stamped "1234 ADJ 1903"	1,233.882

Murdocksville west along highway to Comettsburg.

Frankfort, on north foundation wall of brick dwelling of Andrew Vance's heirs, on west side of street at south end of town; aluminum tablet stamped "1186 ADJ 1903"	1,185.604
Frankfort, 2.3 miles west of, at northwest corner of covered bridge at cross-roads south of pump station; spot on abutment	987.074
Comettsburg, in foundation wall at southeast corner of Freshwater's house; bronze tablet stamped "1150 STBNVL"	1,149.920

Frankfort south-southeast along highway to Burgettstown.

Florence, on east foundation wall of O. K. Simpson's dwelling on south side of street opposite road to Frankfort; aluminum tablet stamped "1282 ADJ 1903"	1,282.534

Burgettstown south along highway to point near Cross Creek village, thence southeast via Hickory to Canonsburg.

Burgettstown, 3.5 miles south of, 1.5 miles east of Cross Creek village, in wing wall at northeast corner of covered bridge over Raccoon Creek; aluminum tablet stamped "1037 ADJ 1903"	1,036.776

[1] The adjustment of railroad levels between Pittsburgh and Steubenville includes the Geological Survey leveling from Pittsburgh to Burgettstown.

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	Feet.
Hickory, on south wall at southwest corner of J. M. Griffith's dwelling; aluminum tablet stamped "1303 ADJ 1903"	1,302.800
Westland, on east end of south abutment of railroad bridge, 300 feet north of Pittsburg Coal Co.'s Midland mine No. 3 tipple; bronze tablet stamped "1024 ADJ 1903"	1,024.795

Hickory west along Wabash Railroad to point near Independence.

Hickory, 2.2 miles southwest of, on east end of north abutment of sewer 100 feet west of tunnel; chiseled square	1,170.584
Woodrow, 0.6 mile east of, in south end of west abutment of bridge over county road; bronze tablet stamped "1134 ADJ 1903"	1,134.622
Woodrow, 1.8 miles west of, on bridge seat of bridge over county road, just south of second covered bridge at crossroads; railroad bench mark	1,046.98
Woodrow, 3.8 miles west of, 2 miles north of West Middleton, on bridge seat at southwest corner of bridge over county road; railroad bench mark	977.46
Patterson Mills, 1 mile south of, on south end of west abutment of large iron bridge over Cross Creek; railroad bench mark	912.966
Patterson Mills, 1 mile south of, on north end of east abutment of railroad bridge over Cross Creek, just west of road crossing; bronze tablet stamped "905 ADJ 1903"	904.828
Twin tunnels, second bridge west of; railroad bench mark on south end of west abutment	826.732

STEUBENVILLE QUADRANGLE.

Bench mark near Independence.

Independence, 2.5 miles northwest of, 0.1 mile east of State line in southeast corner of county bridge over Cross Creek; aluminum tablet stamped "784 STBNVL"	784.024

CLAYSVILLE QUADRANGLE.

Valley Grove, W. Va., northwest along Baltimore & Ohio Railroad via Coon Island and Crothers to Washington.

Valley Grove, 3 miles northeast of, State line (W. Va.-Pa.) monument, at the base of northeast side of Baltimore & Ohio Railroad bridge 170	1,156.180
Coon Island (Vienna post office), in front of station, railroad bridge 166, in northeast capstone; bronze tablet stamped "1000 PITTS"	1,000.092
Tunnel No. 4, at east end of; cut on ledge of rock	1,126.69
Finney, 120 feet north of station, southwest corner of E. T. Boone's dwelling, in foundation wall; bronze tablet stamped "1190 ADJ 1903"	1,189.709

Pryor south along highway via West Middletown and Taylorstown to Crothers.

West Middletown, in foundation wall at northeast corner of M. M. Hemphill's brick dwelling; bronze tablet stamped "1332 ADJ 1903"	1,332.005
West Middletown, 3.7 miles south of, on large rock on east side of road, 360 feet south of covered bridge over Brush Run; bronze tablet stamped "903 ADJ 1903" (on a double-spur line, 0.6 mile)	903.310
Buffalo, 2.7 miles southwest of, on abutment at southwest corner of covered bridge over Brush Run on Buffalo and Taylorstown road; bronze tablet stamped "1028 ADJ 1903"	1,027.810
Buffalo, in foundation wall at southeast corner of H. W. Leeche's dwelling, on west side of street opposite post office and store; bronze tablet stamped "1307 ADJ 1903" (on a double-spur line from preceding bench mark	1,307.652
Taylorstown, 1.3 miles north of, east of large steel oil tank at northwest corner of large iron bridge over Buffalo Creek, on bridge seat; bronze tablet stamped "975 ADJ 1903"	975.714

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	Feet.
Taylorstown, 0.6 mile northwest of, east of three corners on abutment at extreme northwest corner of large iron bridge over Buffalo Creek; chiseled square	981.63

Coon Island (Vienna) north along public road to Dutch Fork Schoolhouse and return.

Coon Island, 1.1 miles northwest of, on abutment at southwest corner of iron bridge over Dutch Fork, just south of forks to west; chiseled square	977.92
Budaville, 0.3 mile southwest of, north side of road fork to east from schoolhouse situated west of main road, on northwest corner of iron bridge over Dutch Fork; bronze tablet stamped "917 ADJ 1903"	917.276

Claysville south along highway to Burdette.

Fargo, 0.5 mile north of, on east side of road just north of point opposite road fork to west, on culvert abutment; bronze tablet stamped "1466 ADJ"	1,465.580
East Finley, 2 miles north of, west of three corners, on west abutment of covered bridge over Templeton Run; bronze tablet stamped "1092 ADJ"	1,092.207
Good Intent, 2.8 miles southeast of, in face of sandstone ledge on west of road, west side of Templeton Run; bronze tablet stamped "1037 ADJ"	1,037.277

Point 4.5 miles south of Fargo west to Good Intent and return.

Good Intent, southeast corner of foundation wall of school building; bronze tablet stamped "1052 ADJ"	1,052.128

Eno northeast along highway to Prosperity, thence east to Amity.

Old Concord, on step of entrance to church; bronze tablet stamped "1118 ADJ"	1,117.820
Prosperity, 1 mile southeast of, 0.1 mile south of three corners, on abutment at northeast corner of covered bridge; bronze tablet stamped "993 ADJ"	992.884

West Washington south along highway to Prosperity.

Lagonda, on east wall of brick schoolhouse at crossroads; bronze tablet stamped "1076 ADJ 1903"	1,075.886
Van Buren, in foundation wall at southeast corner of Bethel Church; bronze tablet stamped "1325 ADJ 1903"	1,325.510

Amity, Blacksville, Rogersville, and Waynesburg quadrangles.

GREENE AND WASHINGTON COUNTIES.

The leveling in the following list was done as follows: In the Waynesburg quadrangle, in 1900, by J. H. Wetzel; in the Blacksville quadrangle, in 1901, by M. P. Page; in the Rogersville quadrangle, mostly in 1902, by Charles Hartman, jr.; and in the Amity quadrangle, partly in 1901, by M. P. Page and H. Wood; partly in 1902, by Charles Hartman, jr.; partly in 1903, by Mr. Wetzel; and partly in 1904, by J. B. Green. The final work in this and in the Rogersville quadrangle was that extended from the Claysville quadrangle, in 1905, by Mr. Green.

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WAYNESBURG QUADRANGLE.

Carmichaels west along highway to Khedive, thence north to Clarksville, thence west to Ruff Creek, thence south to Waynesburg, thence southeast to Point Marion.

	Feet.
Khedive, in west end of residence of Mrs. Sarah Yoder, on foundation stone under bay window; aluminum tablet stamped "1013 PITTSBURG"	1,013.005
Clarksville, 1 mile south of, covered bridge over Tenmile Creek, northwest wing wall, on coping stone (next to bridge); bronze tablet stamped "814 PITTSBURG"	813.917
Ruff Creek, northeast corner of wooden dwelling house of John Breston, in upper foundation stone; bronze tablet stamped "999 PITTSBURG"	997.447
Waynesburg, northwest corner of stone courthouse veranda; bronze tablet stamped "1035 PITTSBURG"	1,034.196
Newton, on northeast wing wall of iron bridge, 2 coping stones from bridge; bronze tablet stamped "1010 PITTSBURG"	1,009.275
Davistown, in ledge of rocks at end of middle (wooden) bridge, northeast wing wall; bronze tablet stamped "932 PITTSBURG"	931.924
Davistown, 1.5 miles southeast of, iron bridge over Dunkard Creek, on northwest wing wall; chiseled square	871.62

Waynesburg west along public roads to Rogersville.

Waynesburg, 3 miles west of highway bridge on Rogersville road, on southeast abutment; chiseled square	952.53

BLACKSVILLE QUADRANGLE.

Core, W. Va., northeast along highway to Mount Morris.

Mount Morris, 150 feet west of mill, in northwest abutment of bridge over Robinson Run, 8 feet from north end of bridge, 10 feet from center of road; bronze tablet stamped "904 GRAFTON"	903.840

AMITY QUADRANGLE.

Beallsville northwest along public roads via Scenery Hill and Vanceville to Eightyfour.

Beallsville 50 feet southeast of center of crossroads, Greenfield's Hotel, 30 feet west of corner of porch, in middle step; bronze tablet stamped "1137 PITTSBURG"	1,135.820
Scenery Hill, at top of Hillsboro triangulation station; bronze tablet stamped "1467 PITTSBURG"	1,466.703
Vanceville, 1.7 miles northwest of, bridge over Pigeon Creek, 235 feet south of center of crossroads, in north end of southwest abutment; bronze tablet stamped "1044 PITTSBURG"	1,042.304

Washington northeast along Baltimore & Ohio Railroad via Eightyfour to Finleyville.

Washington, Cherry and Main streets, southeastern end of boundary wall of courthouse, in south side; bronze tablet stamped "1156 PITTS"	1,155.914
Washington, 3.5 miles east of, bridge 153, northwest corner of east abutment; chisel mark	1,112.284
Zediker, in front of station; top of rail	1,034.2
Eightyfour, post office, 7 miles east of Washington, bridge 140, on southwest wing wall; bronze tablet stamped "992 PITTS"	991.604
Gilkeson, north end of platform; bench mark	1,092.43
Thomas station, southeast end of platform; bench mark	1,135.45
Venetia post office (Anderson station), northwest bridge seat of iron wagon bridge at road crossing; aluminum tablet stamped "986 PITTS"	984.923
Hackett, road crossing; top of rail	954.2

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Washington south along Waynesburg & Washington Railroad and public roads via Amity to Ruff Creek.

	Feet.
Amity, post office and store of F. F. Iams & Son, in stone doorstep, on north side of door, east side of road; aluminum tablet stamped "1204 PITTSBURG"	1,200.748

ROGERSVILLE QUADRANGLE.

Rogersville north to Nineveh, thence west along public roads via Time, Eno, and Simpson Store to Burdette.

Rogersville, highway bridge over Tenmile Creek, in capstone of southwest abutment; aluminum tablet stamped "978 PITTS"	977.137
Nineveh, entrance to Van Olive Hotel, in southeast top of foundation wall; aluminum tablet stamped "1023 PITTS"	1,021.980
Eno, on top step of entrance to church; chiseled square	997.39
Eno, 1.5 miles west of, on northwest abutment of iron bridge over Enslow Fork of Wheeling Creek; chiseled square	963.00
Burdette, Braden's mill (formerly Clansen's mill), highway bridge over Enslow Fork of Wheeling Creek, in capstone of southeast abutment; bronze tablet stamped "918 PITTS"	917.011

Braden's Mill south along public roads via Ryerson station and Aleppo to Deep Valley.

McCracken, 0.5 mile north of, near Earnest's residence, on abutment of covered bridge over South Fork of Dunkard Fork of Wheeling Creek; chiseled square	974.73
Aleppo post office (Bridgeport), in southwest abutment of highway bridge over South Fork of Dunkard Fork of Wheeling Creek; bronze tablet stamped "1060 PITTS"	1,059.388
Morford post office, 4.4 miles south of, at forks of road leading to Bellton, New Freeport, and Aleppo, covered bridge over Wagonroad Run, on southwest abutment; chiseled square	1,004.47

Bellton, W. Va., east along public roads via Deep Valley and New Freeport to Pinebank, thence north to Rogersville.

Deep Valley, public bridge over Pennsylvania Fork of Fish Creek, on northeast abutment; chiseled square	1,015.61
New Freeport, 2 miles west of, public bridge over Laurel Run, near Methodist Church, on southeast abutment; chiseled square	1,030.97
New Freeport, bridge over Pennsylvania Fork of Fish Creek, in southwest abutment; bronze tablet stamped "1062 PITTS"	1,061.806
Pinebank, highway bridge over Toms Run, in southeast abutment; bronze tablet stamped "1006 PITTS"	1,005.254

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APPENDIX A.

ELEVATIONS ADJUSTED BY THE COAST AND GEODETIC SURVEY FROM PRECISE LEVELING.

Allentown, Altoona, Beaver, Bedford, Bellefonte, Berlin, Birmingham, Boyertown, Brownsville, Carlisle, Chambersburg, Chester, Coatesville, Confluence, Connellsville, Easton, Ebensburg, Elders Ridge, Freeport, Germantown, Greensburg, Harrisburg, Hollidaysburg, Hummelstown, Huntingdon, Hyndman, Johnstown, Latrobe, Lebanon, Lewistown, Lockhaven, McCall Ferry, Meyersdale, Middletown, Mifflinburg, Mifflintown, Millersburg, Millerstown, Milton, Mount Union, Neshannock, Newcastle, New Cumberland, New Kensington, Norristown, Philipsburg, Phoenixville, Pittsburgh, Quarryville, Reading, Sewickley, Slatington, Sunbury, Uniontown, Wernersville, Williamsport, Wilpen, Windber, York, and Zelienople quadrangles.

ALLEGHENY, BEDFORD, BERKS, BLAIR, BUCKS, BUTLER, CAMBRIA, CENTER, CHESTER, CUMBERLAND, DAUPHIN, DELAWARE, FAYETTE, FRANKLIN, FULTON, HUNTINGDON, INDIANA, JUNIATA, LANCASTER, LAWRENCE, LEBANON, LEHIGH, LYCOMING, MIFFLIN, MONTGOMERY, NORTHAMPTON, NORTHUMBERLAND, PHILADELPHIA, SNYDER, SOMERSET, WASHINGTON, WESTMORELAND, AND YORK COUNTIES.

The following descriptions and elevations are taken from reports of the Coast and Geodetic Survey and are republished by permission of the Superintendent of that bureau.

The bench marks were established by the Coast and Geodetic Survey, by the Baltimore & Ohio Railroad Co., and by the Pennsylvania Railroad Co. and were included in the 1907 adjustment of the precise level net by the Coast and Geodetic Survey. There are also included in this appendix bench marks along lines of the Pennsylvania Railroad, not forming a part of the precise level net, whose elevations are sufficiently well determined to use as base levels for future topographic mapping. The elevations are likely to be changed but slightly by any future adjustment.

EASTON QUADRANGLE.

At Easton.

	Feet.
Easton, cut on one of central peirs of railroad bridge across Lehigh River, marked "U. S. □ B. M. XIX" (C. & G. S. No. XIX)	214.432
Easton, cut on foundation stone at west corner of jail, marked "U. S. □ B. M. XX" (C. & G. S. No. XX)	357.241
Easton, on sill of a blind window on east side of courthouse, marked "H B. □ M. U. S. C. & G. S. 1881" (C. & G. S. "H")	363.546

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ALLENTOWN QUADRANGLE.

Near Allentown.

	Feet.
Allentown, cut on sill of basement window on south side of front entrance of jail, marked "I B. □ M. U. S. C. & G. S. 1881" (C. & G. S. "I")	321.210
Allentown, 1.5 miles west of, cut on northeast corner of Philadelphia & Reading Railroad birdge over wagon road, marked "B. □ M." (C. & G. S. No. XXI)	295.897

WERNERSVILLE QUADRANGLE.

Shamrock along Philadelphia & Reading Railroad to point 1.5 miles west of Womelsdorf.

Shamrock, about 0.25 mile east of station; cut on southeast corner of railroad bridge, marked "B □ M" (C. & G. S. No. XXIII)	424.322

READING QUADRANGLE.

Monocacy along Schuylkill division of Pennsylvania Railroad to Reading.

Monocacy, canal bridge, east bridge seat; copper bolt (P. R. R. 36)	180.72
Monocacy, near, north parapet of arch; copper bolt (P. R. R. 37)	182.07
Birdsboro, pier of bridge, east side of street at passenger station; copper bolt (P. R. R. 38)	187.89
Allegheny Creek, east bridge seat; copper bolt (P. R. R. 41)	190.54
Allegheny Creek, near, south parapet of arch; copper bolt (P. R. R. 42)	228.36
Schuylkill River bridge, east abutment of, back wall; copper bolt (P. R. R. 43)	245.03
Lancaster pike, east bridge seat; copper bolt (P. R. R. 44)	225.07
Reading, 1 mile south of; Schuylkill River bridge, second course from top of back wall, northeast wing; copper bolt (P. R. R. 45)	213.41
Reading, in doorsill of baggage room at passenger station; copper bolt (P. R. R. 46)	207.65

At Reading.

Reading, eastern abutment of northeasternmost railroad bridge at Philadelphia & Reading Railroad station; cut on coping stone marked "J B. □ M. U. S. C. & G. S. 1881" (C. & G. S. "J")	264.002

BURLINGTON QUADRANGLE.

Morrisville along New York division of Pennsylvania Railroad to Andalusia.

Morrisville, south parapet wall at east end of arch culvert; copper bolt (P. R. R. 58)	21.01
Penn Valley, north parapet of culvert; copper bolt (P. R. R. 59)	19.00
Wheat Sheaf, northwest corner of station; square on stone monument (P. R. R. 60)	18.92
Tullytown, 0.5 mile east of, north parapet of culvert; copper bolt (P. R. R. 60a)	20.42
Edgely, northwest corner of station, square on stone monument (P. R. R. 61)	28.59
Bristol, northwest corner of station, in foundation offset; copper bolt (P. R. R. 62)	21.35
Bristol, 0.6 mile west of, northeast wing of arch; copper bolt (P. R. R. 63)	16.85
Neshaminy Creek Bridge, northeast wing; copper bolt (P. R. R. 64)	30.68
Eddington, 0.1 mile east of, north parapet of arch; copper bolt (P. R. R. 65)	41.05
Cornwells, doorsill of passenger station; copper bolt (P. R. R. 66)	44.66
Andalusia, northwest corner of station, in foundation offset; copper bolt (P. R. R. 67)	39.06

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GERMANTOWN QUADRANGLE.

Andalusia along New York division of Pennsylvania Railroad to point near North Penn railroad crossing.

	Feet.
Torresdale, in doorsill of station; copper bolt (P. R. R. 68)	35.90
Pierson's (old station), northwest corner of building, in foundation offset; square (P. R. R. 69)	34.11
Holmesburg Junction, 0.8 mile east of, north parapet of culvert; copper bolt (P. R. R. 70)	26.39
Holmesburg Junction, in doorsill of station; copper bolt (P. R. R. 71)	35.04
Tacony, on string course east side of police station; shelf (P. R. R. 72)	33.07
Wissinoming, on doorsill of station; square (P. R. R. 72a)	30.70
Bridesburg, in west abutment, south end of Bridge Street Bridge; copper bolt (P. R. R. 73)	34.94
Frankford, in doorsill of station; copper bolt (P. R. R. 74)	32.68
Harrowgate, south end of bridgeseat of west abutment of Kensington Avenue Bridge; copper bolt (P. R. R. 75)	49.54
North Penn railroad crossing, 0.2 mile east of, in northwest wing of overhead bridge; copper bolt (P. R. R. 76)	102.44

Manayunk along Schuylkill division of Pennsylvania Railroad to Conshohocken.

Manayunk, in doorsill of passenger station; copper bolt (P. R. R. 4)	90.27
Shawmont Avenue arch, north parapet; copper bolt (P. R. R. 5)	97.32
Philadelphia, 11.7 miles from, south parapet of arch; copper bolt (P. R. R. 7)	73.23
Spring Mill, in doorsill of passenger station; copper bolt (P. R. R. 8)	56.80

Carpenter along Philadelphia, Germantown & Chestnut Hill branch of Pennsylvania Railroad to Chestnut Hill.

Allen Lane, north abutment of overhead bridge; shelf (P. R. R. 608)	317.72
Wissahickon Heights, in doorsill of station; copper bolt (P. R. R. 609)	336.99
Highland, in doorsill of station; copper bolt (P. R. R. 610)	391.63
Chestnut Hill, in front of station; shelf (P. R. R. 611)	424.18

PHILADELPHIA QUADRANGLE.

Point near North Penn Railroad crossing along New York division of Pennsylvania Railroad to Thirty-fourth Street Bridge.

Broad Street Bridge, north end of bridge seat, east abutment; copper bolt (P. R. R. 77)	110.89
York Street Bridge, south end of bridge seat, east abutment; copper bolt (P. R. R. 78)	102.12
Philadelphia & Reading Railroad bridge, east end, north parapet; copper bolt (P. R. R. 79)	82.45
Thirty-fourth Street, overhead bridge, rock face, north side of Pier 1; shelf (P. R. R. 80, or bench mark 2 of Philadelphia division)	71.54

North Philadelphia along Philadelphia, Germantown & Chestnut Hill branch of Pennsylvania Railroad to Carpenter.

North Philadelphia, on base course near northwest corner of station; square (P. R. R. 600)	121.94
Bridge 3, south end of bridge seat, east abutment; copper bolt (P. R. R. 601)	125.75
Westmoreland, in doorsill of station; copper bolt (P. R. R. 602)	143.47
Queen Lane, south abutment of overhead bridge; shelf (P. R. R. 603)	190.37
Chelten Avenue, in doorsill of station; copper bolt (P. R. R. 604)	225.14
Tulpehocken, in doorsill of station; copper bolt (P. R. R. 605)	220.11
Upsal, in doorsill of station; copper bolt (P. R. R. 606)	248.52
Carpenter, in doorsill of station; copper bolt (P. R. R. 607)	286.99

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Frankford Yard Bridge along Delaware River & Union Railroad and bridge of Pennsylvania Railroad to Pier No. 3 of Delaware River Bridge.

	Feet.
Frankford Yard Bridge, east end of bridge seat of south abutment; copper bolt (P. R. R. 1)	45.96
Frankford Creek, south end of coping course on east side of arch over; copper bolt (P. R. R. 2)	38.75
Richmond Street Bridge, east end of bridge seat of south abutment; copper bolt (P. R. R. 3)	35.54
Carbon Street Bridge abutment, east end of bridge seat; copper bolt (P. R. R. 4)	35.74
Delaware River Bridge; copper bolt in pier No. 1 (P. R. R. 5)	45.08
Delaware River Bridge; copper bolt in pier No. 2 (P. R. R. 6)	48.35
Delaware River Bridge; copper bolt in pier No. 3 (P. R. R. 7)	48.19

Wynnefield Avenue, Philadelphia, along Schuylkill division of Pennsylvania Railroad to Manayunk.

Philadelphia, Wynnefield Avenue, east bridge seat; copper bolt (P. R. R. 2)	190.34
Bala, City Avenue Bridge, capstone north side of track; copper bolt (P. R. R. 2a)	256.11
Bala Summit, ledge of rock north side of track under Union Avenue Bridge; copper bolt (P. R. R. 2b)	280.18
Philadelphia, 6.7 miles from, arch, north parapet; copper bolt (P. R. R. 3)	206.26

At Philadelphia.

Philadelphia, city datum (P. R. R. No. 1, Philadelphia division)	5.23
Fifty-ninth Street tower, east bridge seat, north end, undergrade bridge, at Lancaster pike; copper bolt (P. R. R. 5, Philadelphia division)	187.29
Overbrook, north parapet of culvert; copper bolt (P. R. R. 6, Philadelphia division)	217.90

Grays Ferry along Maryland division of Pennsylvania Railroad to Darby.

Grays Ferry, east of, southwest pedestal of overhead road bridge; copper bolt (P. R. R. No. 1)	31.85
Mount Moriah, 520 feet south of, north end of east pier, Sixty-third Street overhead bridge; copper bolt (P. R. R. 2)	56.40
Paschall, doorstep of station; copper bolt (P. R. R. 3)	55.92

NORRISTOWN QUADRANGLE.

Merion along Philadelphia division of Pennsylvania Railroad to Paoli.

Merion, 0.25 mile west of, east end of overhead bridge, in north pier; copper bolt (P. R. R. 7)	268.10
Narberth, at station, in doorsill; copper bolt (P. R. R. 8)	288.90
Wynnewood station, on base course, middle of front; shelf (P. R. R. 9)	316.31
Ardmore station, doorsill; copper bolt (P. R. R. 10)	358.36
Haverford station, doorsill; copper bolt (P. R. R. 11)	385.75
Haverford, 1,000 feet west of, north end of east bridge seat of undergrade bridge; copper bolt (P. R. R. 12)	389.34
Bryn Mawr, in wall of turntable pit; copper bolt (P. R. R. 13)	412.94
Bryn Mawr, in doorsill of tower W. H.; copper bolt (P. R. R. 13a)	410.65
Rosemont, 2,000 feet west of, north parapet of culvert; copper bolt (P. R. R. 14)	406.24
Villa Nova, north abutment of overhead bridge, on rock face; shelf (P. R. R. 15)	429.93
Radnor station, in doorsill; copper bolt (P. R. R. 16)	410.50

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	Feet.
St. David's station, in doorsill; copper bolt (P. R. R. 17)	398.55
Wayne station, in doorsill; copper bolt (P. R. R. 18)	405.83
Strafford, in west bridge seat, north end of undergrade bridge; copper bolt (P. R. R. 19)	427.23
Devon station, in doorsill; copper bolt (P. R. R. 20)	465.64
Berwyn station, in doorsill; copper bolt (P. R. R. 21)	498.87
Berwyn, 3,000 feet west of, in doorsill of Robert Glenn's house; copper bolt (P. R. R. 22)	521.40
Paoli, north abutment of overhead bridge, on rock face; shelf (P. R. R. 23)	540.79

Conshohocken along Schuylkill division of Pennsylvania Railroad to Port Providence.

Conshohocken, doorsill of passenger station; copper bolt (P. R. R. 9)	67.58
Philadelphia, 15.6 miles from, open bridge at quarry, east bridge seat; copper bolt (P. R. R. 10)	66.04
Norristown, doorsill of baggage room at passenger station; copper bolt (P. R. R. 12)	83.39
Franklin Avenue, east bridge seat at undergrade street crossing; copper bolt (P. R. R. 13)	91.58
Port Indian, south parapet of Indian Creek arch; copper bolt (P. R. R. 14)	80.65
Philadelphia, 20.6 miles from, open bridge, east bridge seat; copper bolt (P. R. R. 15)	79.81
Perkiomen Bridge, back wall, west abutment; copper bolt (P. R. R. 17)	116.55
Philadelphia, 25.5 miles from, south parapet of culvert; copper bolt (P. R. R. 18)	100.32
Port Providence, east bridge seat, undergrade road crossing; copper bolt (P. R. R. 19)	111.43

PHOENIXVILLE QUADRANGLE.

Paoli along Philadelphia division of Pennsylvania Railroad to point near Downingtown water station.

Green Tree station, north end of undergrade bridge, east bridge seat; copper bolt (P. R. R. 24)	545.51
Malvern station, in doorsill; copper bolt (P. R. R. 25)	545.80
Whiteland, undergrade bridge, east bridge seat, south end; copper bolt (P. R. R. 29)	383.97
Whitford station, in doorsill; copper bolt (P. R. R. 30)	359.41
Whitford, 0.8 mile west of, south abutment of overhead bridge; shelf (P. R. R. 31)	339.50
Bradford Hills, east abutment of undergrade bridge, north step; copper bolt (P. R. R. 32)	312.02
Valley Creek quarries, overhead bridge, south abutment; shelf (P. R. R. 33)	304.81
Woodbine, 300 feet west of, south end, head wall to iron pipe; copper bolt (P. R. R. 34)	278.53

Port Providence along Schuylkill division of Pennsylvania Railroad to point near Douglassville.

Tunnel, north wall, 6 feet from east end, fourth course, below springing line; shelf (P. R. R. 22)	146.36
Stony Run arch, south parapet; copper bolt (P. R. R. 23)	119.39
Spring City, near, north parapet of arch; copper bolt (P. R. R. 24)	113.85
Spring City, east of, canal bridge, east bridge seat; copper bolt (P. R. R. 25)	114.65
Frick's Lock, canal bridge, back wall, east abutment; copper bolt (P. R. R. 28)	158.29
Schuylkill River bridge, back wall, west abutment; copper bolt (P. R. R. 29)	157.03
Pottstown, near, north parapet of arch; copper bolt (P. R. R. 30)	139.74
Pottstown, near, north parapet of arch; copper bolt (P. R. R. 32)	141.67

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Pickering Valley railroad bridge along Phoenixville branch of Schuylkill division of Pennsylvania Railroad to Chester Valley Railroad Bridge.

	Feet.
Pickering Valley railroad bridge, south leg of Y, bridge seat at west abutment; copper bolt (P. R. R. 80)	133.33
Phoenixville, 2.5 miles from passenger station, south parapet of culvert; copper bolt (P. R. R. 81)	175.66
Phoenixville, 3.8 miles from, south end of box culvert; copper bolt (P. R. R. 82)	239.14
Phoenixville, 6 miles from; south parapet of culvert; copper bolt (P. R. R. 83)	267.38
Bacton, 500 feet west of, south parapet of culvert; copper bolt (P. R. R. 84)	354.54
Chester Valley railroad bridge, west bridge seat; copper bolt (P. R. R. 368.45)	368.45

BOYERTOWN QUADRANGLE.

Point near Douglassville along Schuylkill division of Pennsylvania Railroad to Monocacy.

Douglassville, Schuylkill River Bridge, east bridge seat; copper bolt (P. R. R. 34)	152.64
Douglassville, near, open bridge, east bridge seat; copper bolt (P. R. R. 35)	154.00

CHESTER QUADRANGLE.

Darby along Maryland division of Philadelphia, Baltimore & Washington Railroad (Pennsylvania Railroad) to Claymont.

Darby, doorstep of station; copper bolt (P. R. R. 4)	43.21
Folcroft, east wing wall of overhead road bridge 21; copper bolt (P. R. R. 5)	76.47
Glenolden, doorstep of station; copper bolt (P. R. R. 6)	76.45
Norwood, east end of north wall of culvert, north of Moore; copper bolt (P. R. R. 7)	84.68
Ridley Park, end of east retaining wall at station; copper bolt (P. R. R. 8)	73.41
Crum Lynne, doorstep of station; copper bolt (P. R. R. 9)	52.67
Eddystone, doorstep of passenger station; copper bolt (P. R. R. 10)	29.66
Hinkson Street Bridge, northeast back wall; copper bolt (P. R. R. 10a)	32.12
Edgemont Avenue Bridge, southwest bridge seat; copper bolt (P. R. R. 11)	37.08
Penn Street Bridge, southeast corner of back wall; copper bolt (P. R. R. 11a)	42.66
Lamokin, doorstep of passenger station; copper bolt (P. R. R. 12)	40.87
Tilghman Street Bridge, southeast bridge seat; copper bolt (P. R. R. 12a)	41.52
Jeffrey Street Bridge, northeast bridge seat; copper bolt (P. R. R. 12b)	45.30
Highland Avenue Bridge, northeast bridge seat; copper bolt (P. R. R. 13)	45.28
Thurlow, doorstep of passenger station; copper bolt (P. R. R. 13a)	35.05
Trainer, doorstep of passenger station; copper bolt (P. R. R. 14)	31.29
Linwood, doorstep of passenger station; copper bolt (P. R. R. 14a)	33.19
Linwood, 800 feet south of, southeast coping of culvert; copper bolt (P. R. R. 15)	29.72

COATESVILLE QUADRANGLE.

Point near Downingtown water station along Philadelphia division of Pennsylvania Railroad to Christiana.

Downingtown, 300 feet west of water station, south head wall, iron pipe; copper bolt (P. R. R. 37)	283.03
Gallagherville, 0.4 mile west of, undergrade bridge, east bridge seat; copper bolt (P. R. R. 38)	295.25

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	Feet.
Thorndale, 0.2 mile west of, east bridge seat, undergrade bridge, north end; copper bolt (P. R. R. 39)	325.20
Caln, 0.2 mile east of, south end of culvert; copper bolt (P. R. R. 40)	353.07
Caln, 0.6 mile west of, north end of culvert; copper bolt (P. R. R. 41)	369.73
Lancaster Pike, overhead bridge, northwest step; copper bolt (P. R. R. 42)	376.43
Coatesville station, in doorsill; copper bolt (P. R. R. 43)	380.99
Coatesville, on bridge, northwest wing (old line); copper bolt (P. R. R. 44)	382.40
Coatesville, 0.7 mile west of, south end of box culvert; copper bolt (P. R. R. 45)	392.56
Coatesville, 2.3 miles west of, south end of box culvert; copper bolt (P. R. R. 46)	428.32
Pomeroy, 0.6 mile east of, north head wall of iron pipe; copper bolt (P. R. R. 47)	464.88
Pomeroy, 0.25 mile west of, south parapet of Sadsbury road arch; copper bolt (P. R. R. 48)	487.67
Parkesburg, 0.9 mile east of, north end of culvert; copper bolt (P. R. R. 49)	509.97
Parkesburg station, in doorsill; copper bolt (P. R. R. 50)	540.65
Lenover, 0.4 mile east of, north head wall of iron pipe; copper bolt (P. R. R. 51)	547.92
Lenover, 0.3 mile west of, south parapet of arch culvert; copper bolt (P. R. R. 52)	525.15

Point near Pomeroy along low-grade freight line of Pennsylvania Railroad to Bridge 407.

Parkersburg 765 feet west of milepost 44, south end of east bridge seat of U. G. bridge; copper bolt (P. R. R. 49)	542.66
Lenover, 0.3 mile west of, 572 feet east of milepost 46, west end of north coping of 6-foot arch; copper bolt (P. R. R. 50)	517.68
Atglen, 613 feet east of milepost 47, east end of south coping of road arch, bridge 402; copper bolt (P. R. R. 51)	505.29
Milepost 48, 119 feet west of, end of south coping of 60-foot arch, bridge 405; copper bolt (P. R. R. 52)	497.30
Milepost 50, 1,213 feet east of, south end of east bridge seat, bridge 406; copper bolt (P. R. R. 53)	526.56
Milepost 50, 1,849 feet west of, south end of east bridge seat, bridge 407; copper bolt (P. R. R. 54)	537.14

QUARRYVILLE QUADRANGLE.

Christiana along Philadelphia Division of Pennsylvania Railroad to Kinzer.

Christiana, north end of Ann Street Bridge, bridge seat, west abutment; copper bolt (P. R. R. 55)	486.36
Christiana, 1 mile west of, west end of north parapet of arch; copper bolt (P. R. R. 56)	511.73
Gap (old line), 1 mile east of, in north parapet of culvert; copper bolt (P. R. R. 57)	540.25
Gap, 1 mile west of, east end of north parapet of arch; copper bolt (P. R. R. 59)	499.86
Kinzer, on west doorsill of hotel, chiseled square (P. R. R. 62)	468.58

Bridge 407 along low-grade freight line of Pennsylvania Railroad to point near Smithville.

Milepost 51, 1,036 feet west of, south end of east bridge seat of bridge 409; copper bolt (P. R. R. 55)	552.63
Milepost 52, 2,075 feet east of, east end of south coping road arch, bridge 411; copper bolt (P. R. R. 56)	562.46

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	Feet.
Milepost 52, 2,228 feet west of, south end of east bridge seat, viaduct, bridge 412; copper bolt (P. R. R. 57)	575. 25
Milepost 53, 691 feet west of, south wing east abutment of viaduct, bridge 413; copper bolt (P. R. R. 59)	575. 56
Milepost 56, 2,375 feet east of, east end of north coping of creek arch; copper bolt (P. R. R. 61)	538. 33
Milepost 56, 786 feet west of, on ledge of rock on south side of track; copper bolt (P. R. R. 62)	529. 57
Milepost 58, 2,477 feet west of, west end of south coping of road arch of bridge 422; copper bolt (P. R. R. 64)	492. 45
Milepost 60, 1,304 feet east of, on west end of box culvert; copper bolt (P. R. R. 65)	474. 91
Milepost 61, 1,340 feet east of, south end west abutment of overhead bridge, east end Beck's Cut; copper bolt (P. R. R. 66)	470. 53
Milepost 62, 411 feet west of, west end of south coping of bridge 428, road arch; copper bolt (P. R. R. 67)	437. 80
Smithville, east of, 1,635 feet east of milepost 63, northeast pedestal of bridge; copper bolt (P. R. R. 68)	438. 99

McCALL FERRY QUADRANGLE.

Strickler's Run along Pennsylvania Railroad and Susquehanna River to Benton.

Strickler's Run, north abutment, in coping of bridge 42; copper bolt (P. R. R. bench mark)	240. 176
Milepost 42, 1,410 feet east of, northwest bridge seat of open bridge; copper bolt (P. R. R. bench mark)	231. 130
Staman's Run, coping west end of north abutment of bridge; copper bolt (P. R. R. bench mark)	229. 767
Milepost 39, 380 feet east of, east end of coping of 10-foot arch; copper bolt (P. R. R. bench mark)	228. 729
Milepost 37, 400 feet east of, face of rock; copper bolt (P. R. R. bench mark)	234. 163
Milepost 35, 1,280 feet east of, copper bolt in rock (P. R. R. bench mark)	232. 487
Safe Harbor, north end of east abutment of bridge; copper bolt (P. R. R. bench mark)	270. 869
Pequea Creek, east coping, south end of bridge; copper bolt (P. R. R. bench mark)	184. 858
Milepost 28, 230 feet south of, 15 feet east of track; copper bolt in rock (P. R. R. bench mark)	181. 890
Tucquan arch, north end, east coping; copper bolt (P. R. R. bench mark)	182. 768
Minqua, south corner, east coping of arch; copper bolt (P. R. R. bench mark)	182. 641
Cully, east end of coping of arch; copper bolt (P. R. R. bench mark)	169. 388
Fites Eddy, stream, 100 feet west of, copper bolt in rock (P. R. R. bench mark)	153. 222
Benton, west coping of arch at; copper bolt (P. R. R. bench mark)	105. 860

Point near Smithville along low-grade freight line of Pennsylvania Railroad to Strickler's Run.

Milepost 65, 2,584 feet east of, northwest pedestal of overhead bridge; copper bolt (P. R. R. 69)	411. 85
Milepost 65, 94 feet west of, south end of west parapet of road bridge 433; copper bolt (P. R. R. 70)	398. 62
Milepost 66, 475 feet west of, on shelf of rock at tower SF; copper bolt (P. R. R. 71)	385. 48

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	Feet.
Milepost 67, 180 feet west of, east corner of north coping of 24-foot arch; copper bolt (P. R. R. 72)	369.48
Milepost 68, 1,010 feet east of, south end of west abutment of Pequea Viaduct; copper bolt (P. R. R. 73)	357.15
Milepost 69, 90 feet east of, southwest corner of coping of arch; copper bolt (P. R. R. 74)	339.35
Shenk's Ferry, 820 feet east of milepost 70, on ledge of rock; copper bolt (P. R. R. 75)	331.83
Gardner's Hollow, 2,450 feet east of milepost 75, on rock east of track; copper bolt (P. R. R. 76)	323.85
Milepost 71, 2,646 feet west of, north end of west abutment of Conestoga Viaduct; copper bolt (P. R. R. 77)	308.14
Milepost 72, 1,148 feet west of, on face of rock; copper bolt (P. R. R. 78)	300.69
Sowers Point, 12 feet west of milepost 73, in face of rock; copper bolt (P. R. R. 79)	289.81
Buzzards Rock, 776 feet west of milepost 74, head wall for iron pipe; copper bolt (P. R. R. 80)	276.68
Mann's Run, 936 feet west of milepost 75, northeast back wall of girder bridge; copper bolt (P. R. R. 81)	268.74
Turkey Hill, 1,977 feet west of milepost 76, rock east of track; copper bolt (P. R. R. 82)	260.19
Creswell Jump-over, 797 feet west of milepost 77, northeast corner of bridge seat of bridge 444; copper bolt (P. R. R. 83)	250.29
Blind Run, 2,092 feet west of milepost 78, middle of west coping of bridge 446; copper bolt (P. R. R. 84)	234.26
Shuman's Run, 2,187 feet west of milepost 79, middle of west coping, in middle of west coping of bridge 448; copper bolt (P. R. R. 85)	231.890
Strickler's Run, 1,235 feet west of milepost 81, northeast corner of coping of bridge 449; copper bolt (P. R. R. 86)	242.090

NEW HOLLAND QUADRANGLE.

Kinzer along Philadelphia division of Pennsylvania Railroad to point 2 miles west of Witmer.

McIlvaine's, overhead bridge, north pier, east end; copper bolt (P. R. R. 64)	425.19
Leaman Place, 0.8 mile east of, Belmont Road, undergrade bridge, northeast step; copper bolt (P. R. R. 65)	398.95
Leaman Place, in doorsill of freight station; copper bolt (P. R. R. 66)	385.53
Pequea Creek bridge, in first step, east abutment; copper bolt (P. R. R. 67)	367.50
Gordonville freight station, third pier from west end; copper bolt (P. R. R. 68)	384.17
Gordonville, 0.5 mile west of, north end of box culvert (old line); copper bolt (P. R. R. 69)	391.19
Gordonville, 0.9 mile west of, north parapet of culvert; copper bolt (P. R. R. 70)	389.65
Ronk, north abutment of overhead bridge on rock face; shelf (P. R. R. 71)	379.36
Bird-in-Hand freight station, in doorsill; copper bolt (P. R. R. 72)	364.22
Mill Creek bridge, northeast wing wall; copper bolt (P. R. R. 73)	354.20
Witmer, 0.5 mile west of, east end of north pier of overhead bridge; copper bolt (P. R. R. 74)	381.57
Tower W-M, stone monument at fence line, south side; square (P. R. R. 75)	375.91
Witmer, 2 miles west of, center of north pier of overhead bridge; square (P. R. R. 76)	367.68

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LANCASTER QUADRANGLE.

Point near Witmer along Philadelphia division of Pennsylvania Railroad to Florin.

	Feet.
Witmer, 3 miles west of, east bridge seat of undergrade bridge; copper bolt (P. R. R. 77)	339.54
Conestoga Junction, west end of north pier of overhead bridge; copper bolt (P. R. R. 78)	325.93
Big Conestoga Bridge, 2 feet from end, northwest wing wall; copper bolt (P. R. R. 79)	304.80
Lancaster, 1.3 miles east of station, north parapet of arch; copper bolt (P. R. R. 80)	309.87
Dillerville, north side, wall of turntable pit; square (P. R. R. 82)	352.41
Dillerville, west end of water station, north parapet of culvert, center of water trough; copper bolt (P. R. R. 83)	314.76
Dillerville, 1.2 miles west of, north parapet of culvert; copper bolt (P. R. R. 84)	319.21
Landisville, 2.4 miles east of, east bridge seat, south end of undergrade bridge, farm crossing; square (P. R. R. 85)	353.94
Landisville, 1.1 miles east of, west abutment, north end, back wall of undergrade bridge, at farm road crossing; copper bolt (P. R. R. 86)	375.96
Landisville, in doorsill of Railroad Hotel; square (P. R. R. 87)	404.55
Big Chiques Bridge, south parapet, east end; copper bolt (P. R. R. 89)	361.78
Little Chiques Bridge, south parapet, east end; copper bolt (P. R. R. 90)	349.28
Mount Joy, Marietta Street, overhead bridge, rock face, north abutment; copper bolt (P. R. R. 91)	360.10

New Holland pike along Lancaster cut-off and Columbia branch of Philadelphia division of Pennsylvania Railroad to Columbia passenger station.

New Holland pike, undergrade bridge, bridge seat, west abutment, north end; copper bolt (P. R. R. 116)	310.71
Lititz pike bridge, rock face, north abutment; shelf (P. R. R. 117)	339.29
Tower D–V, 0.1 miles east of, south abutment of overhead bridge; shelf (P. R. R. 118)	356.33
Little Conestoga bridge, northeast wing wall; copper bolt (P. R. R. 119)	324.91
Rohrerstown, 0.3 mile west of, south abutment of overhead bridge, west end; square (P. R. R. 120)	364.38
Rohrerstown, 0.8 mile west of, north end, east bridge seat, undergrade farm crossing; copper bolt (P. R. R. 121)	368.28
Mountville, 1.3 miles east of, overhead bridge, north abutment; shelf (P. R. R. 122)	422.69
Mountville, 0.4 mile west of, south parapet of culvert; copper bolt (P. R. R. 123)	390.52
Glen Manor, 0.1 mile west of, undergrade bridge, west abutment, north end; copper bolt (P. R. R. 124)	346.74
Strickler Run bridge, 1.3 miles east of Columbia, northeast wing wall; copper bolt (P. R. R. 125)	289.45

Strickler's Run along low-grade freight line of Pennsylvania Railroad to Columbia.

Milepost 82, 1,123 feet east of, northwest corner of coping of bridge No. 450 over Shawnee Creek; copper bolt (P. R. R. 87)	242.800

Washington Borough along Frederick division of Pennsylvania Railroad to Columbia.

Washington Borough, southeast back wall of open bridge at sawmill; copper bolt (P. R. R. 40)	231.30
Milepost 42, 1,410 feet east of, northwest bridge seat of open bridge; copper bolt (P. R. R. 41)	231.13

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	Feet.
Milepost 43, 210 feet east of, southwest back wall; copper bolt (P. R. R. 42)	240.10
Milepost 43, 2,880 feet west of, south coping of arch; copper bolt (P. R. R. 43)	242.80

MIDDLETOWN QUADRANGLE.

Florin along Philadelphia division of Pennsylvania Railroad to White House freight crossing.

Florin, west side of public road, north side of track, in corner stone; copper bolt (P. R. R. 92)	388.41
Florin, 0.8 mile west of, Harrisburg pike, undergrade bridge; copper bolt (P. R. R. 93)	382.28
Florin, 1.5 miles west of, southwest step of culvert; copper bolt (P. R. R. 94)	397.62
Rheems, west doorsill, warehouse; square (P. R. R. 95)	436.84
Rheems, 0.4 mile west of, Harrisburg pike, undergrade bridge, north parapet, west end; copper bolt (P. R. R. 96)	443.41
Elizabethtown, 0.8 mile east of station, north abutment, west end, overhead bridge; copper bolt (P. R. R. 97)	479.14
Elizabethtown, in doorsill of B. G. Groff's warehouse; copper bolt (P. R. R. 98)	462.12
Elizabethtown, 1.5 miles west of, in rock south side of track; copper bolt (P. R. R. 99)	500.05
Conewago, in doorsill of passenger station; copper bolt (P. R. R. 100)	436.09
Conewago, northeast wing wall of bridge (old line); copper bolt (P. R. R. 101)	417.85
Conewago, 1.2 miles west of, overhead bridge, center of south pier; copper bolt (P. R. R. 102)	394.36
Conewago, 2.1 miles west of, Hillsdale Road, top step of arch, west abutment, south end; copper bolt (P. R. R. 103)	360.79
Conewago, 2.4 miles west of, bridge crossing farm road, south end, east bridge seat; copper bolt (P. R. R. 104)	353.34
Branch Intersection, 1.4 miles east of, undergrade farm and crossing, south end, east bridge seat; copper bolt (P. R. R. 105)	345.29
Branch Intersection, 0.8 mile east of, parapet, north end; copper bolt (P. R. R. 106)	337.77
Branch Intersection, 1,300 feet east of, Young's undergrade bridge, west seat, south end; copper bolt (P. R. R. 107)	319.53
Canal Bridge, Young's warehouse, east bridge seat, north end; copper bolt (P. R. R. 109)	312.88

Columbia passenger station along Lancaster cut-off and Columbia branch of Philadelphia division of Pennsylvania Railroad to Swatara Bridge.

Columbia, near, tunnel retaining wall, west end, rock face; shelf (P. R. R. 127)	248.39
Chiques Bridge, east bridge seat, north end; copper bolt (P. R. R. 128)	249.17
Watts, string course on front of station; shelf (P. R. R. 129)	262.57
Marietta, doorsill of ticket office; copper bolt (P. R. R. 130)	260.86
Wild Cat Falls, south end of east bridge seat; copper bolt (P. R. R. 131)	257.95
Shock's Mills, 250 feet east of, east bridge seat, south end, undergrade bridge; copper bolt (P. R. R. 132)	264.69
Shock's Mills, 1.2 miles west of, east bridge seat, north end of open culvert; copper bolt (P. R. R. 133)	270.66
Bainbridge, 1.7 miles east of, south end, west abutment of culvert; copper bolt (P. R. R. 134)	275.18

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	Feet.
Conoy Creek arch, east end of north parapet; copper bolt (P. R. R. 135)	273.56
Bainbridge, 200 feet east of, on rock, south side of track; copper bolt (P. R. R. 136)	273.43
Bainbridge, 0.7 mile west of, north end, east abutment, open culvert; copper bolt (P. R. R. 137)	270.03
Bainbridge, 1.7 miles west of, north end, east abutment, open culvert; copper bolt (P. R. R. 138)	275.59
Collins, 0.5 mile west of station, south end, east bridge seat, open bridge; copper bolt (P. R. R. 139)	284.02
Falmouth, Conewago Bridge, corner northeast wing wall and back wall; copper bolt (P. R. R. 140)	292.53
Falmouth, 1 mile west of, south end of coping, head wall, iron pipe; copper bolt (P. R. R. 141)	291.96
Branch Intersection, 1.6 miles east of, 300 feet west of Buck Lock, north end, east abutment, open culvert; copper bolt (P. R. R. 142)	297.95
Branch Intersection, south end, east bridge seat, 300 feet east of station; copper bolt (P. R. R. 143)	307.97

Codorus Mills along Baltimore division of Pennsylvania Railroad to Middletown Ferry station.

Bridge 100, 2,730 feet north of milepost 60, northeast back wall; copper bolt (P. R. R. 64)	374.99
Emigsville, 500 feet south of station, in bridge 102; copper bolt (P. R. R. 65)	375.83
Milepost 62, 1,365 feet north of, east end of coping, in culvert; copper bolt (P. R. R. 66)	415.46
Milepost 63, northwest pier of overhead bridge 106; square (P. R. R. 67)	463.62
Milepost 64, 375 feet north of, west side of culvert; copper bolt (P. R. R. 68)	412.54
Mount Wolf, 420 feet north of station, west side of bridge 111; copper bolt (P. R. R. 69)	370.08
Milepost 66, 118 feet north of, northwest wing of bridge 116; copper bolt (P. R. R. 70)	313.27
Milepost 67, 625 feet north of, southwest abutment of bridge 71; copper bolt (P. R. R. 71)	286.17
Milepost 68, 1,000 feet north of, west side of culvert; copper bolt (P. R. R. 72)	287.24
Milepost 69, 1,255 feet north of, east side of rock 70 feet from track; copper bolt (P. R. R. 73)	292.81
Milepost 70, 675 feet north of, east side of arch; copper bolt (P. R. R. 74)	302.68
Milepost 71, 500 feet north of, rock opposite west side of bridge 121; copper bolt (P. R. R. 75)	290.31
Milepost 72, 750 feet north of, east side, opposite mill, in arch; copper bolt (P. R. R. 76)	300.22
Milepost 73, 2,250 feet north of, middle of coping, west side of culvert; copper bolt (P. R. R. 77)	299.23

Wrightsville station along York branch of Pennsylvania Railroad to Hellam station.

Wrightsville, south end of station, doorsill of ladies' waiting room; copper bolt (P. R. R. 1)	257.35
Milepost 2, northeast abutment of bridge 3; copper bolt (P. R. R. 2)	267.68
Milepost 3, northwest abutment of bridge 6; copper bolt (P. R. R. 3)	287.98
Milepost 4, northwest abutment of bridge 9; copper bolt (P. R. R. 4)	301.19
Milepost 5, 1,125 feet west of, southeast abutment of bridge 11; copper bolt (P. R. R. 5)	326.23

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LEBANON QUADRANGLE.

At Lebanon.

	Feet.
Lebanon, at south side of southernmost front entrance to Saint Mary's Catholic Church; center of cross on white marble block built into front wall (C. & G. S. XXVI)	474.577
Lebanon, southwest corner of Eighth and Church streets, in grounds of Mr. P. L. Weiner; marble post bearing on south side the letter "K" (C. & G. S. "K")	465.755

HUMMELSTOWN QUADRANGLE.

Point 1.25 miles west of Annville along Philadelphia & Reading Railroad to point between Beaver and Hummelstown.

Annville, 1.25 miles west of, at southwest corner of bridge over "Joe Crider's dam," cut; marked "XXVII B. □ M. 1881" (C. & G. S. XXVII)	405.211
Beaver and Hummelstown Station, between, cut on stone parapet of bridge over Swatara River and Canal, marked "XXVIII B. □ M. 1881" (C. & G. S. XXVIII)	367.660

HARRISBURG QUADRANGLE.

At Harrisburg.

Harrisburg, center of top surface of monument (in Capitol grounds) marking the astronomical station of the Coast and Geodetic Survey (C. & G. S. XXIX)	356.758

Harrisburg along Pennsylvania Railroad to Cove.

Harrisburg, shelf at northeast corner of passenger station (P. R. R. 1)	319.939
Harrisburg, square on sill of east front window of district engineer's office (P. R. R. 2)	337.051
Harrisburg, canal bridge, copper bolt in south end of east bridge seat (P. R. R. 4)	331.772
Harrisburg, Susquehanna River bridge, copper bolt in northeast wing wall (P. R. R. 5)	349.292
Harrisburg, Susquehanna River bridge, copper bolt, northwest wing wall (P. R. R. 6)	349.412
Fishing Creek arch, copper bolt in southwest end of coping (P. R. R. 7)	345.360
Perdix, copper bolt in east abutment, south end of open culvert, 1,000 feet west of station (P. R. R. 8)	348.037
Cove, copper bolt in south end of box culvert (P. R. R. 9)	345.047
Cove, 1,500 feet west of, square in doorsill of brick schoolhouse (P. R. R. 10)	343.526

Heck's along Pennsylvania Railroad to Halifax.

Heck's, near, east end, north abutment of railroad bridge; copper bolt (P. R. R. 1)	346.194
Heck's, foundation of Heck's Tower, at southeast corner; copper bolt (P. R. R. 1a)	347.894
Dauphin, near, bridge 148, east end, south abutment; copper bolt (P. R. R. 2)	346.679
Dauphin, 1.4 miles north of, east side of track, 2,055 feet north of milepost 94–44, in red shale rock; copper bolt (P. R. R. 3)	349.001
Dauphin, near, bridge 150, southeast wing wall; copper bolt (P. R. R. 4)	347.543
Geiger Point, near, east side of track, 20 feet south of milepost 96–42, in sandstone rock; copper bolt	350.714
Clarks Ferry, near, bridge 151, southeast back wall; copper bolt (P. R. R. 6)	349.336
Clarks Ferry, 0.9 mile south of, coping of culvert, west side of track, 760 feet north of milepost 98–40; copper bolt (P. R. R. 7)	352.368

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	Feet.
Clarks Ferry, near, east side of track, 15 feet south of milepost "99-39," in shaly sandstone; copper bolt	364.780
Clarks Ferry, near, retaining wall, opposite Clarks Ferry; shelf (P. R. R. 9)	365.710
Clarks Ferry, north of, northwest corner, foundation of water tank; copper bolt (P. R. R. 10)	371.291
Clarks Ferry, bridge 152, northwest back wall; shelf (P. R. R. 11)	366.233
Clarks Ferry, near, bridge 153, east end, north abutment; shelf (P. R. R. 12)	369.215
Inglenook, east side of track, 3,570 feet north of milepost 102-36, in shaly sandstone rock; copper bolt (P. R. R. 12a)	373.378
Halifax, near, east side of track; milepost 104-34, in shaly rock; shelf (P. R. R. 13)	373.871
Halifax, near, east side of track, milepost 105-33, shaly rock; shelf (P. R. R. 14)	377.582
Halifax, near, culvert, east side of track, 485 feet north of milepost 106-32; square (P. R. R. 15)	376.545
Halifax, 0.3 mile north of, large rock, east side of track, 1,705 feet north of milepost 106-32; square (P. R. R. 16)	379.065
Halifax, near, east end of coping, south wing wall of bridge 156; copper bolt (P. R. R. 17)	377.797
Halifax, near, face of northwest back wall of bridge 157; shelf (P. R. R. 18)	376.099
Halifax, 2.9 miles north of, foundation of barn, 310 feet south of milepost 109-29; copper bolt (P. R. R. 19)	388.840

NEW CUMBERLAND QUADRANGLE.

Middletown ferry station along Baltimore division of Pennsylvania Railroad to Bridgeport.

Milepost 74, 2,000 feet north of, west side, north of tool-house, in rock; copper bolt (P. R. R. 78)	309.99
Milepost 75, 1,150 feet north of, west side, rock; copper bolt (P. R. R. 79)	318.08
Milepost 76, 154 feet south of, east side, rock; shelf (P. R. R. 80)	312.46
Milepost 77, 450 feet south of, west side of culvert; copper bolt (P. R. R. 81)	306.10
Marsh Run, 360 feet north of station, west side of arch; copper bolt (P. R. R. 82)	304.90
Milepost 79, 750 feet north of, west side of culvert; square (P. R. R. 83)	319.53
Bridge 135, 268 feet south of, west side of ledge; shelf (P. R. R. 84)	315.14
New Cumberland, southeast abutment of bridge 137; copper bolt (P. R. R. 85)	309.70
Milepost 82, 450 feet south of, west side of culvert; copper bolt (P. R. R. 86)	318.40
Bridgeport, east side, south abutment of bridge 140A; copper bolt (P. R. R. 87)	349.81

White House freight crossing along Philadelphia division of Pennsylvania Railroad to point near Steelton.

White House, freight crossing, south end of east abutment, bridge seat; copper bolt (P. R. R. 110)	322.13
White House, freight crossing, south wing wall, east abutment; shelf (P. R. R. 111)	305.08
Highspire, 0.2 mile west of, north parapet of bridge, east end; copper bolt (P. R. R. 112)	298.69
Highspire, 1 mile west of, north parapet of culvert, east end; copper bolt (P. R. R. 113)	301.20
Steelton, west doorsill of passenger station; square (P. R. R. 114)	309.88
Steelton, 1.2 miles west of, open bridge, southeast wing wall, east end; copper bolt (P. R. R. 115)	305.67

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YORK QUADRANGLE.

Shrewsbury along Baltimore division of Pennsylvania Railroad to point near milepost 43.

	Feet.
Milepost 40, 180 feet north of, west center of arch bridge 70; copper bolt (P. R. R. 41)	633.23
Seitzland, 150 feet north of, in rock on east side of track; copper bolt (P. R. R. 42)	596.29
Milepost 42, 180 feet south of, northwest back wall of bridge 74, south of Glen Rock; copper bolt (P. R. R. 43)	548.02
Milepost 42, 2,580 feet north of, southwest wing of bridge 75; copper bolt (P. R. R. 44)	531.81

Point near milepost 51 along Baltimore division of Pennsylvania Railroad to Codorus Mills.

Brilhart, in doorstep of station; copper bolt (P. R. R. 54)	410.81
Milepost 53, 950 feet north of, northeast back wall of bridge; copper bolt (P. R. R. 55)	393.65
Milepost 54, 870 feet north of, northwest wing of bridge 91; copper bolt (P. R. R. 56)	396.90
Milepost 55, 970 feet north of, east center of box culvert; copper bolt (P. R. R. 57)	391.41
Milepost 56, 570 feet north of, northwest coping of bridge 93; copper bolt (P. R. R. 58)	377.77
York, tobacco warehouse of Croll & Co., on doorstep; square (P. R. R. 59).	373.47
York, doorstep of baggage room; copper bolt (P. R. R. 60)	371.26
NOTE.—Pennsylvania Railroad Co.'s elevation at courthouse. 398.665 York City elevation at courthouse 392.975	
Milepost 58, 1,650 feet north of, at bridge 95, southwest bridges at; copper bolt (P. R. R. 61)	357.30
Codorus Mills, square on step on mill (P. R. R. 63)	379.23

Hellam station along York branch of Pennsylvania Railroad to York.

Hellam, 1,250 feet west of station, northwest abutment of bridge 14; copper bolt (P. R. R. 6)	354.48
Campbell, box culvert, south side; copper bolt (P. R. R. 7)	368.80
Stony Brook station, in north side of overhead bridge west of; shelf (P. R. R. 8)	416.53
Heistand, overhead bridge at, south side; projecting bolt (P. R. R. 9)	441.12
Milepost 11, 750 feet west of, northeast abutment of bridge 18; copper bolt (P. R. R. 10)	387.92
York, southwest end of coping of bridge 20; copper bolt (P. R. R. 12)	383.31

PARKTON QUADRANGLE.

Point near milepost 35 along Baltimore division of Pennsylvania Railroad to Shrewsbury.

Milepost 37, 750 feet south of, east center of arch; copper bolt (P. R. R. 38).	829.48
Milepost 38, 1,530 feet north of, southeast bridge seat of bridge 68; copper bolt (P. R. R. 39)	754.10

HANOVER QUADRANGLE.

Point near milepost 43 along Baltimore division of Pennsylvania Railroad to Brilhart.

Milepost 43, 2,310 feet north of, southwest bridge seat of bridge 76; copper bolt (P. R. R. 45)	515.06
Milepost 45, 750 feet south of, northeast bridge seat of bridge 79; copper bolt (P. R. R. 47)	497.95

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	Feet.
Hanover Junction, southwest wing of bridge 81; copper bolt (P. R. R. 48).	479.85
Smyser, south wall of station; copper bolt (P. R. R. 49)	474.15
Milepost 48, 480 feet south of, southeast bridge seat of bridge 83; copper bolt (P. R. R. 50)	453.47
Milepost 50, 180 feet south of, northeast wing of bridge 85; copper bolt (P. R. R. 52)	441.24
Milepost 51, 810 feet north of, southwest coping of bridge 86; copper bolt (P. R. R. 53)	426.50

CARLISLE QUADRANGLE.

At Carlisle.

Carlisle, cut on base of column at west side of jail entrance, marked "M U.S.C.& G.S.B.□M. 1881" (C.& G.S."M")	473.106

SHIPPENSBURG QUADRANGLE.

At Shippensburg.

Shippensburg, cut on water table of house and store of Mr. C. J. Reddig, northwest corner of Main and Railroad streets, marked "B.□M." (C.& G.S.XXX)	653.711

CHAMBERSBURG QUADRANGLE.

At Chambersburg and Greencastle.

Chambersburg, cut on pedestal at base of northernmost pillar of front of courthouse, marked "N U.S.C.& G.S.B.□M.1881" (C.& G.S."N")	620.424
Greencastle, south of entrance and 7 inches above level of sidewalk at station, center of cross cut in stone in front wall of station, marked "B.□M." (C.& G.S.XXXI)	588.406

NEW BLOOMFIELD QUADRANGLE.

Cove along Pennsylvania Railroad to Newport.

Tower, C. K., 600 feet east of, in south end of box culvert; copper bolt (P. R. R. 11)	346.986
Duncannon, in front wall of freight station; square (P. R. R. 14)	367.073
Juniata Bridge; doorsill of station (P. R. R. B)	359.262
Juniata Bridge, 0.8 mile west of station, in north end of box culvert; copper bolt (P. R. R. 15)	362.941
Aqueduct, 1,700 feet east of, in north end of box culvert; copper bolt (P. R. R. 16)	372.881
Aqueduct, in south wing wall of canal aqueduct; square (P. R. R. 17)	371.150
Alters Run bridge, in east abutment, north end of back wall; copper bolt (P. R. R. 18)	377.199
Loshs Run bridge, in north end of arch; copper bolt (P. R. R. 19)	373.328
Loshs Run, 0.7 mile west of station, in north end of box culvert; copper bolt (P. R. R. 20)	385.687
Bailey, 300 feet east of station, in south end of box culvert; copper bolt (P. R. R. 22)	384.526
Bailey, 1.1 miles west of station, in north end of box culvert; copper bolt (P. R. R. 23)	395.285
Trimmers Rock, 700 feet east of tower at, in northeast wing wall of arch culvert; copper bolt (P. R. R. 24)	392.454
Little Buffalo Creek bridge, in northeast wing wall; copper bolt (P. R. R. 25).	394.023

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	Feet.
Big Buffalo Creek, in north parapet of bridge, 14 feet east of east springing line; copper bolt (P. R. R. 27)	396.650
Newport, 2 miles northwest of, in north end of box culvert; copper bolt (P. R. R. 28)	401.489

MILLERSTOWN QUADRANGLE.

Millerstown along Pennsylvania Railroad to Thompsontown.

Old Ferry station, 0.3 mile east of, in north end of arch culvert; copper bolt (P. R. R. 29)	400.488
Durward, 0.8 mile east of, in north end of box culvert; copper bolt (P. R. R. 32)	410.205
Durward, in north end of triple box culvert; copper bolt (P. R. R. 33)	422.644
Durward, 0.8 mile west of, in north end of arch culvert; copper bolt (P. R. R. 34)	421.224
Thompsontown, 0.6 mile west of, in north end of box culvert; copper bolt (P. R. R. 36)	418.691
Thompsontown, 1.9 miles west of, in north end of box culvert; copper bolt (P. R. R. 37)	420.160

MIFFLINTOWN QUADRANGLE.

Vandyke along Pennsylvania Railroad to Denholm.

Vandyke station, east end of doorsill (P. R. R. C)	425.619
Vandyke, 0.5 mile west of station, in south end of pier, double box culvert; copper bolt (P. R. R. 39)	425.778
Tuscarora, in foundation offset, northwest corner of tower; square (P. R. R. 40)	429.988
Mexico, in north end of east bridge seat, at undergrade road crossing; copper bolt (P. R. R. 41)	429.036
Port Royal, 1.1 miles east of station, in south end of box culvert; square (P. R. R. 42)	432.655
Port Royal, in east end of south parapet of bridge; copper bolt (P. R. R. 43)	440.854
Mifflin, 0.3 mile east of station, 100 feet west of road crossing, in north end of box culvert; copper bolt (P. R. R. 45)	442.472
Mifflin, north face of pier of coal tipple; shelf (P. R. R. 46)	444.642
Mifflin, 1 mile west of, in south end of box culvert; copper bolt (P. R. R. 47)	446.901
Denholm, 450 feet east of station, in south parapet of arch culvert; copper bolt (P. R. R. 49)	453.649
Denholm, 1.5 miles west of station, in north end of box culvert; copper bolt (P. R. R. 50)	465.557

Bridge 7 along Lewistown division of Pennsylvania Railroad to point near milepost 44-6.

Bridge 7, shelf in northeast back wall (P. R. R. 24)	633.95
Raub's Mills, bridge at, southeast bridge seat; copper bolt (P. R. R. 25)	679.83
Bridge 6, northwest bridge seat; copper bolt (P. R. R. 26)	690.18
Milepost 32-18, 400 feet west of, north end of box culvert; shelf (P. R. R. 27)	732.75
McClure, west end of north middle foundation of water tank; square (P. R. R. 28)	700.14
Milepost 34-16, 165 feet west of, south end of box culvert; copper bolt (P. R. R. 29)	722.33
Milepost 35-15, north side of track; square on set stone (P. R. R. 29a)	782.52
Milepost 36-14, 1,100 feet east of, south end of box culvert; copper bolt (P. R. R. 30)	747.01

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	Feet
Milepost 37–13, 560 feet east of, south end of box culvert; copper bolt (P. R. R. 31)	692.04
Milepost 37–13, 1,800 feet west of, north end of box culvert; copper bolt (P. R. R. 32)	664.39
Milepost 38–12, 1,330 feet west of, south end of box culvert; copper bolt (P. R. R. 33)	623.62
Milepost 39–11, 930 feet west of, southwest bridge seat of small bridge; copper bolt (P. R. R. 34)	590.52
Milepost 40–10, 2,600 feet west of, southwest bridge seat of small bridge; copper bolt (P. R. R. 35)	568.13
Painterville, 150 feet east of station, shelf on north face of box culvert; copper bolt (P. R. R. 36)	558.97
Bridge No. 5, southwest bridge seat; copper bolt (P. R. R. 37)	541.96
Milepost 43–7, 2,520 feet west of, north end of box culvert; square (P. R. R. 38)	544.63
Milepost 44–6, 1,770 feet west of, north end of box culvert, second step; square (P. R. R. 39)	531.68

LEWISTOWN QUADRANGLE.

Narrows along Pennsylvania Railroad to McVeytown.

Narrows, 0.7 mile west of station, in northeast wing wall of box culvert; copper bolt (P. R. R. 51)	466.004
Narrows, 1.5 miles west of station, in north end of box culvert; copper bolt (P. R. R. 52)	473.563
Bixler water station, in retaining wall at west end of troughs; copper bolt (P. R. R. 53)	476.192
Lewistown Junction, square in foundation of tower (P. R. R. 54)	498.351
Mayes bridge, in second step of northwest wing wall; copper bolt (P. R. R. 57)	499.590
Granville, 1,500 feet west of station, in north end of arch culvert; copper bolt (P. R. R. 58)	493.738
Anderson, 1,200 feet west of passenger station, in arch culvert; copper bolt (P. R. R. 59)	492.836
Longfellow, 0.1 mile east of station, in south end of box culvert; copper bolt (P. R. R. 61)	497.203
Horingford, 0.3 mile east of station, 7 feet from south end, in east bridge seat of cattle pass; copper bolt (P. R. R. 62)	500.062
Horingford, 1.2 miles west of station, at south end of box culvert; copper bolt (P. R. R. 63)	523.501

Bridge 4 along Lewistown division of Pennsylvania Railroad to bridge 1.

Bridge 4, northwest bridge seat; copper bolt (P. R. R. 40)	513.03
Milepost 46–4, 1,800 feet west of, north side of track, in rock; copper bolt (P. R. R. 41)	516.36
Milepost 48–2, 1,570 feet east of, north side of track, in rock; copper bolt (P. R. R. 42)	536.80
Bridge 3, northwest wing wall, second step; square (P. R. R. 43)	496.94
Lewistown, opposite station, west end of doorsill of store; square (P. R. R. 44)	495.26
Bridge 1, northeast back wall; shelf (P. R. R. 45)	481.09

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MATTAWANA QUADRANGLE.

McVeytown along Pennsylvania Railroad to Ryde.

	Feet.
McVeytown, square in window sill of ticket office (P. R. R. 64)	525.440
McVeytown, 1.1 miles west of, in north end of arch bridge 141; copper bolt (P. R. R. 65)	505.979
McVeytown, 1.9 miles west of, in north end of box culvert; copper bolt (P. R. R. 66)	506.238
Ryde, 1.1 miles east of station, in north end of box culvert; copper bolt (P. R. R. 67)	510.758
Ryde, in north parapet of Shanks Run arch; copper bolt (P. R. R. 68)	515.246
Ryde, 0.8 mile west of, in south abutment, east end of overhead bridge; copper bolt (P. R. R. 69)	533.265

MOUNT UNION QUADRANGLE.

Ryde along Pennsylvania Railroad to Huntingdon.

Manayunk, in southeast corner of west abutment of bridge; copper bolt (P. R. R. 70)	538.335
Vineyard, 1 mile west of station, in south end of box culvert; copper bolt (P. R. R. 71)	563.063
Vineyard, 2 miles west of, in east end of retaining wall; copper bolt (P. R. R. 72)	584.562
Newton Hamilton, 0.8 mile east of, in north end of west bridge seat; copper bolt (P. R. R. 73)	589.960
Newton Hamilton, square in foundation offset, northwest corner of station porch (P. R. R. 74)	599.181
Mount Union, in south end of west abutment of bridge; copper bolt (P. R. R. 75)	601.529
Mount Union, front of bay window of brick house 200 feet east of station; east end of marble window sill (P. R. R. 76)	600.428
Mount Union, 1.4 miles west of station, 200 feet east of lock 33, in west end of retaining wall; copper bolt (P. R. R. 77)	582.537
Jackstown, 200 feet east of water station, in north end of culvert; copper bolt (P. R. R. 78)	593.746
Mapleton, in doorsill at east end of freight station; copper bolt (P. R. R. 79)	597.005
Vandevander's bridge, in south parapet at east end; copper bolt (P. R. R. 80)	600.914
Bridgeport, 500 feet west of canal bridge, in south end of box culvert; copper bolt (P. R. R. 81)	600.874
Mill Creek, square in front wall of station (P. R. R. 82)	606.512
Mill Creek, 3,000 feet west of, in south end of arch culvert; copper bolt (P. R. R. 83)	601.212
Mill Creek, 1.7 miles west of, in south end of pier of plate girder bridge 156; copper bolt (P. R. R. 84)	602.331
Ardenheim, 300 feet west of station, in north end of culvert; copper bolt (P. R. R. 85)	603.350
Standing Stone Creek bridge, in east end of south parapet; copper bolt (P. R. R. 86)	620.778

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HUNTINGDON QUADRANGLE.

At Huntingdon.

	Feet.
Huntingdon, in south end of head-race arch; copper bolt (P. R. R. 88)...	624.497

BIRMINGHAM QUADRANGLE.

Warrior Ridge along Pennsylvania Railroad to Tyrone.

Warrior Ridge, 0.7 mile east of water station, square on rock in borrow pit (P. R. R. D.)	668.154
Warrior Ridge, in doorsill of pump house; copper bolt (P. R. R. 90)	675.543
Petersburg, 1.4 miles east of station, in south end of box culvert; copper bolt (P. R. R. 91)	675.462
Petersburg, in doorsill of freight room; copper bolt (P. R. R. 92)	680.632
Neff's overhead bridge, on retaining wall 20 feet west of; copper bolt (P. R. R. 93)	692.351
Shelf in southwest wing wall of overhead bridge, public road (P. R. R. 94).	693.550
Shuman's bridge, square in northwest wing wall (P. R. R. 95)	699.580
Barree, 0.3 mile east of station, 50 feet from west end of rock cut; square (P. R. R. 96)	720.319
Barree, 0.4 mile west of station, in south end of box culvert; copper bolt (P. R. R. 97)	728.888
Tunnel, north side, east end; shelf (P. R. R. 98)	759.038
Tunnel, south side, west end; shelf (P. R. R. 99)	760.937
Little Juniata bridge 1, 30 feet east of back wall, east abutment of bridge, in rock; copper bolt (P. R. R. E.)	782.776
Little Juniata bridge 2, in north end of back wall, west abutment; copper bolt (P. R. R. 101)	786.355
Union Furnace, Arch Run, in culvert, north end of arch; copper bolt (P. R. R. 102)	798.745
Little Juniata bridge 6, east abutment of, 90 feet east of back wall, in rock; copper bolt (P. R. R. 103)	821.274
Shoenberger, in north end of east abutment of undergrade road crossing; iron bolt (P. R. R. 104)	838.273
Little Juniata bridge 10, in west end of south parapet; copper bolt (P. R. R. 105) (raised 1 foot)	857.943
Birmingham, 200 feet east of, north end of arch; copper bolt (P. R. R. 106).	866.472
Little Juniata bridge 11, west end of south parapet; copper bolt (P. R. R. 107)	887.791
Little Juniata bridge 12, west end of south parapet; copper bolt (P. R. R. 108)	890.500
Tyrone, in north end of box culvert at water station; copper bolt (P. R. R. 109)	895.799
Tyrone, 0.7 mile west of station, in south end of box culvert; copper bolt (P. R. R. 111)	921.949
Little Juniata bridge 13, east abutment wall, south end of bridge seat; copper bolt (P. R. R. 112)	934.088

Bridge 14 along Tyrone division of Pennsylvania Railroad to Tyrone.

Bridge 14, southwest bridge seat; square (P. R. R. 43)	1,077.22
Dix station, 1,083 feet east of milepost 8–47; square on set stone (P. R. R. 44)	1,109.02
Bridge 13, northwest bridge seat; copper bolt (P. R. R. 45)	1,083.29
Bridge 12, northeast bridge seat; copper bolt (P. R. R. 46)	1,070.27
Bridge 11, northwest bridge seat; copper bolt (P. R. R. 47)	1,054.60

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	Feet.
Bridge 9, northeast bridge seat; copper bolt (P. R. R. 48)	1,022.56
Milepost 3-52, 1,135 feet east of, northeast bridge seat of open culvert; copper bolt (P. R. R. 49)	990.38
Bridge 6, southeast bridge seat of; copper bolt (P. R. R. 50)	944.67
Milepost 1-54, 130 feet east of, northwest coping of stone arch; square (P. R. R. 51)	925.15
Tyrone, west end of base course of brick repair-shop, west end of yard; shelf (P. R. R. 52)	932.98
Tyrone, at Eleventh Street and Washington Avenue, southwest bridge seat of undergrade foot bridge; copper bolt (P. R. R. 53)	905.33
Tyrone, at station, base course, front of tower; shelf (P. R. R. 54, or bench mark 110, Middle Division)	910.61

ALTOONA QUADRANGLE.

Tyrone along Pennsylvania Railroad to Kittanning Point.

Little Juniata bridge 13, 1,000 feet west of west abutment; south side; square in rock (P. R. R. F.)	942.948
Grazierville, 0.6 mile west of, south end arch, bridge 182; copper bolt (P. R. R. 113)	950.587
Tipton, in front wall of station; square (P. R. R. 114)	993.206
Fostoria, 0.2 mile east of, in north end of arch, bridge 184; copper bolt (P. R. R. 115)	1,027.435
Bellwood, in south abutment of overhead road bridge; shelf (P. R. R. 116)	1,062.033
Bellwood, 1.2 miles west of station, north wing wall, east abutment, Sugar Run bridge; copper bolt (P. R. R. 117)	1,058.151
Elizabeth Furnace, north end of east bridge seat, undergrade farm road; copper bolt (P. R. R. 118)	1,075.350
Milepost 233, south end of back wall, east abutment of girder bridge; copper bolt (P. R. R. 119)	1,099.780
Blair Furnace, in doorsill of station; copper bolt (P. R. R. 120)	1,117.919
Red Bridge, north abutment; shelf (P. R. R. 121)	1,132.628
Haggerty Run, north end of arch; copper bolt (P. R. R. 122)	1,142.067
Altoona, south doorsill of roundhouse; copper bolt (P. R. R. 123)	1,161.216
Altoona, Fourth Street Bridge, north pier; shelf (P. R. R. 124)	1,162.656
Altoona, Seventh Street Bridge, south pier; shelf (P. R. R. 125)	1,169.986
Altoona, in doorsill of passenger station; copper bolt (P. R. R. 126)	1,181.056
Altoona, north abutment, Seventeenth Street Bridge; shelf (P. R. R. 127)	1,191.806
Kittanning Point, in rock opposite watchhouse; copper bolt (P. R. R. 2)	1,626.161

HOLLIDAYSBURG QUADRANGLE.

At Allegrippus.

Allegrippus, 400 feet west of, 30 feet north of center line of track, east end of cut; copper bolt in rock (P. R. R. 3)	1,935.358

Point 3 miles from Altoona passenger station along Hollidaysburg and Morrison's Cove branches of Pennsylvania Railroad to Henrietta.

Altoona, 3 miles from, north bridge seat of open culvert; copper bolt (P. R. R. 2)	1,103.74
Canaan, north abutment of bridge 4, west end of back wall; square (P. R. R. 3)	1,059.25
Bridge 5, north end of arch; copper bolt (P. R. R. 4)	1,002.09
Bridge 6, north end of pier; copper bolt (P. R. R. 5)	982.73

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	Feet.
Hollidaysburg, sill of north front window of passenger station; shelf (P. R. R. 6)	956.50
Bridge 9, northwest wing wall; copper bolt (P. R. R. 7)	938.86
Bridge 10, northeast wing wall; copper bolt (P. R. R. 8)	943.97
Altoona, 12.8 miles from, west end of culvert; copper bolt (P. R. R. 9)	969.06
Brooke's Mills, south side of public road, on rock; square (P. R. R. 10)	1,006.42
McKee, northwest wing wall of bridge 11; square (P. R. R. 11)	1,033.03
Roaring Spring, doorsill of church; square (P. R. R. 12)	1,202.80
Roaring Spring, rock at tool-house; copper bolt (P. R. R. 12a)	1,202.88
Bridge 14, northwest wing wall; copper bolt (P. R. R. 13)	1,264.06
Erb, east side of cut, in rock at summit; copper bolt (P. R. R. 14)	1,355.55
Martinsburg wye, near, opposite south end of barn, in rock west of track; copper bolt (P. R. R. 15)	1,346.00
Bridge 15, south abutment, west end; copper bolt (P. R. R. 17)	1,348.78
Henrietta, near, west of track, in rock in small quarry; copper bolt (P. R. R. 19)	1,430.24
Henrietta, foundation at north end of passenger station; shelf (P. R. R. 20)	1,394.01

EBENSBURG QUADRANGLE.

Bennington along Pennsylvania Railroad to Wilmore.

Bennington, 650 feet east of, in rock in south side of cut; copper bolt (P. R. R. 4)	2,030.607
Allegheny Tunnel, in second course, north side, east end of; copper bolt (P. R. R. 5)	2,126.316
Gallitzin, in doorsill of supervisor's house; copper bolt (P. R. R. 6)	2,164.566
Cresson, in south parapet of road arch; copper bolt (P. R. R. 7)	2,021.703
Lilly, 1 mile east of, in north parapet of arch culvert; copper bolt (P. R. R. 8)	1,950.330
Lilly, 800 feet west of, girder bridge, in bridge seat, west abutment, between track 3 and siding; copper bolt (P. R. R. 9)	1,888.830
Portage, 870 feet east of, shelf in rock on south side of cut (P. R. R. 12)	1,687.166
New Portage, 1.15 miles west of station, shelf in rock on south side of cut (P. R. R. 13)	1,623.354

EVERETT QUADRANGLE.

Bedford along Bedford division of Pennsylvania Railroad to Woodbury.

Mount Dallas, 6.8 miles from, southeast corner of bridge seat of deck girder bridge; copper bolt (P. R. R. 21)	1,052.17
Lutzville, 3.4 miles from, east end of box culvert; copper bolt (P. R. R. 22)	1,036.16
Ashcom, undergrade road crossing, north bridge seat; copper bolt (P. R. R. 23)	1,028.69
Mount Dallas, northeast wing wall of bridge; square (P. R. R. 24)	1,045.89
Mount Dallas, 210 feet north of milepost 0, on rock west of tracks; shelf (P. R. R. 24a)	1,054.49
Yellow Creek village, east abutment of lower county bridge; square (P. R. R. 25)	935.86
Pattonsville Gap, south end of, southeast wing wall of county bridge; square (P. R. R. 26)	1,061.18
Loysburg, 1,000 feet south of, box culvert; copper bolt (P. R. R. 27)	1,117.66
Waterside, church near tollgate; northeast corner of bottom step (P. R. R. 28)	1,164.47
Woodbury, southeast corner of Lecrone & Hoffman's mill; copper bolt (P. R. R. 29)	1,236.02

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HYNDMAN QUADRANGLE.

State Line along Bedford division of Pennsylvania Railroad to Mann's Choice.

	Feet.
State Line, north abutment of Wills Creek bridge, on back wall; shelf (P. R. R. 1)	732.91
Hyndman, near, west end of box culvert; copper bolt (P. R. R. 2)	747.66
Hyndman, near, 20 feet east of track, on rock; shelf (P. R. R. 3)	835.45
Hyndman, 0.4 mile south of, north pier of bridge; copper bolt (P. R. R. 4)	909.11
Hyndman, 0.3 mile north of, south abutment of bridge, in bridge seat; copper bolt (P. R. R. 5) (C. & G. S. 1907 value)	945.285
Hyndman, near, southwest corner of south abutment of bridge; copper bolt (P. R. R. 6)	1,002.87
Bard, east end north abutment on coping; copper bolt (P. R. R. 11)	1,267.98
Mount Dallas, 20.7 miles from, north abutment of open bridge, in bridge seat; copper bolt (P. R. R. 12)	1,290.82
Sulphur Springs, east end of open culvert, on north abutment; square (P. R. R. 13)	1,183.84
Mount Dallas, 16.8 miles from, west end, center pier of half through girder bridge; copper bolt (P. R. R. 14)	1,147.32
Mann's Choice, north abutment of open culvert; copper bolt (P. R. R. 15)	1,135.20

Cooks Mills along Baltimore & Ohio Railroad to Hyndman.

Cooks Mills, 0.3 mile north of, between tracks, in east abutment of bridge 8; copper bolt (B. & O. 163A)	779.368
Cooks Mills, 2 miles north of, in south coping of culvert across Walley farm, about 11.5 miles from Cumberland; copper bolt (B. & O. 165A)	841.525
Hyndman, 0.6 mile southeast of, on south end of east abutment of bridge 9; copper bolt (B. & O. 167A)	903.774
Hyndman, 0.3 mile north of, in bridge seat of south abutment of bridge; copper bolt (P. R. R. 5)	945.285
Hyndman, 0.5 mile northwest of, between tracks in east abutment of bridge 10; copper bolt (B. & O. 168A)	957.948

JOHNSTOWN QUADRANGLE.

Wilmore along Pennsylvania Railroad to Sang Hollow.

Little Conemaugh bridge 1, east end of north parapet; copper bolt (P. R. R. 15)	1,558.802
Little Conemaugh bridge 3, east end of north parapet; copper bolt (P. R. R. 16)	1,562.361
Ehrenfeld, in east end of retaining wall; copper bolt (P. R. R. 17)	1,519.101
Little Conemaugh bridge 5, in east end of north parapet; copper bolt (P. R. R. 18)	1,483.909
Conemaugh Viaduct, east end of south parapet; copper bolt (P. R. R. 20)	1,457.588
Mineral Point, in door sill of station; copper bolt (P. R. R. 21)	1,415.777
Mineral Point, 1.3 miles west of station, east face of rock; shelf (P. R. R. 22a)	1,360.896
Mineral Point, 1.52 miles west of station, corner of coping, Cambria Iron Co.'s dam; square (P. R. R. 23)	1,326.546
Little Conemaugh bridge 6, west end of south parapet; square (P. R. R. 24)	1,310.715
Conemaugh, in doorsill at east end of roundhouse; copper bolt (P. R. R. 26)	1,226.803
Woodvale, north pier, Third Street Bridge; shelf (P. R. R. 27)	1,185.242
Sang Hollow, 0.09 mile east of, in rock at spring, south side; copper bolt (P. R. R. 30A)	1,147.878

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Lovett along Pittsburgh division of Pennsylvania Railroad to Elton.

	Feet.
Lovett, northeast corner of water tank foundation; copper bolt (P. R. R. 1).	1,636.48
Yellow Run Bridge, east end of south abutment; copper bolt (P. R. R. 2)..	1,724.60
Lovett, 2.1 miles from, in rock on west side of track; copper bolt (P. R. R. 3)	1,882.07
Summit, rock on west side of track; copper bolt (P. R. R. 4)	2,154.74
Elton, east end of south abutment of overhead bridge; copper bolt (P. R. R. 5)	2,034.54

WILPEN QUADRANGLE.

Sang Hollow along Pennsylvania Railroad to Millwood.

Sang Hollow, east end of retaining wall; shelf (P. R. R. 31)	1,144.388
Tower N. R., 0.11 mile east of, rock in cut, south side; copper bolt (P. R. R. 34)	1,126.576
Big Spring Run, east end of arch, south parapet; copper bolt (P. R. R. 36).	1,094.274
Piney Run, 0.17 mile west of tower V. K., east end of arch, north parapet of bridge 226; copper bolt (P. R. R. 36a)	1,091.542
New Florence, 1.7 miles east of station, in south end of double box culvert; copper bolt (P. R. R. 36b)	1,080.660
New Florence, 0.57 mile east of station, arch, northeast end of parapet; copper bolt (P. R. R. 37)	1,073.179
New Florence, in doorsill of brick hotel; square (P. R. R. 37a)	1,080.199
Tower J. D., north end of, in box culvert; copper bolt (P. R. R. 40)	1,042.487
Lockport, 1.2 miles east of, in rock, south side of cut, opposite milepost 292; shelf (P. R. R. 41)	1,050.786
Lockport, on doorsill of station; square (P. R. R. 42)	1,054.815
Bolivar Junction, in south end of west end of parapet of road arch; copper bolt (P. R. R. 43)	1,032.893
Bolivar Viaduct, northeast wing wall; copper bolt (P. R. R. 44)	1,035.373
Bolivar Viaduct, southwest wing wall; copper bolt (P. R. R. 44a)	1,035.753
Tower I. J., 0.09 mile west of, in rock on south side; copper bolt (P. R. R. 45)	1,085.291
Pack Saddle, 600 feet west of station, 30 feet north of center line, on rock; square (P. R. R. 46)	1,105.250
Pack Saddle, 50 feet east of watchhouse, south of track, on rock; shelf (P. R. R. 46a)	1,106.970
Blairsville Intersection, 26.5 feet south of tool-house; on stone monument; square (P. R. R. 47)	1,119.708
Blairsville Intersection, 1.1 miles west of, in arch east end of north parapet; copper bolt (P. R. R. 48)	1,113.730

Near Blairsville.

Blairsville, 2.8 miles east of, Toms Run arch, in south end, coping; copper bolt (P. R. R. 62)	967.649
Bolivar Junction, 2.23 miles from, in rock 30 feet south of center line of track; copper bolt (P. R. R. 63)	1,003.593

LATROBE QUADRANGLE.

Millwood along Pennsylvania Railroad to Georges station.

Millwood, shelf, north abutment, overhead bridge (P. R. R. 51)	1,165.557
Millwood, 0.47 mile west of station, in arch culvert at south end; copper bolt (P. R. R. 52)	1,150.297
Derry, in north end of pier of open bridge; copper bolt (P. R. R. 53)	1,168.688

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	Feet.
Derry, on base course on east side of roundhouse; square (P. R. R. 54)	1,182.058
Bradenville, 300 feet west of station, on rock on north side of track; square (P. R. R. 56)	1,085.992
Bradenville, 500 feet west of station, on rock on south side of track; square (P. R. R. 56a)	1,085.102
Loyalhanna, on north pier of overhead bridge; square (P. R. R. 57)	1,039.293
Latrobe, on doorsill of passenger station; square (P. R. R. 58)	1,008.445
Latrobe, on northeast wing wall of county bridge over Loyalhanna Creek; square (P. R. R. 58a)	988.796
Latrobe, 1.48 miles west of, on north abutment of overhead bridge; shelf (P. R. R. 59)	1,063.747
Beatty, on front wall of freight station; square (P. R. R. 60)	1,077.188
Carney, on rock at tool-house; shelf (P. R. R. 61)	1,153.022
Carrs Tunnel, west end, south side; shelf (P. R. R. 62)	1,209.573
Georges station, on south pier of overhead bridge; square (P. R. R. 63)	1,199.314

Saltsburg along Pennsylvania Railroad to Blairsville.

Saltsburg, 1 mile west of, west abutment, south end of bridge seat; square (P. R. R. 49)	840.868
Saltsburg, passenger station, on doorsill of baggage room; square (P. R. R. 50)	855.550
White Rock, 0.5 mile east of, north line of railway; copper bolt (P. R. R. 51)	872.206
Tunnelton, 1.1 miles west of, northwest wing wall; copper bolt (P. R. R. 52)	867.070
Bow, 0.4 mile west of, east end, northwest wing wall; copper bolt (P. R. R. 53)	901.356
Bow, 0.3 mile west of, east end, north side Coad's Tunnel; shelf (P. R. R. 54)	904.206
Livermore, 0.7 mile west of, southwest wing wall; copper bolt (P. R. R. 55)	922.919
Livermore, 0.2 mile east of, southeast wing wall, bridge; copper bolt (P. R. R. 56)	933.481
Social Hall, 0.8 mile west of, iron pipe drain, south wall; copper bolt (P. R. R. 57)	962.474
Social Hall, bridge, southwest wing wall; copper bolt (P. R. R. 58)	964.196
Blairsville, 0.4 mile west of, Walnut Street Bridge, northeast wing wall, third course; copper bolt (P. R. R. 59)	999.361
Blairsville, passenger station, northeast corner, foundation offset; square (P. R. R. 60)	1,011.892
Blairsville, 1.6 miles east of, iron pipe drain, north wall; copper bolt (P. R. R. 61)	979.066

GREENSBURG QUADRANGLE.

Greensburg along Pennsylvania Railroad to Ardara.

Greensburg tunnel, on east end at north side; shelf (P. R. R. 65)	1,085.868
Greensburg, on east wall of freight station; square (P. R. R. 66)	1,113.509
Radebaugh, 8 feet inside east end of new tunnel; shelf (P. R. R. 67)	1,162.051
Radebaugh, at west end of old tunnel, on south side; shelf (P. R. R. 68)	1,164.681
Radebaugh, 10 feet inside of west end of new tunnel; shelf (P. R. R. 68a)	1,157.541
Radebaugh, on northwest wing wall of double box culvert; square (P. R. R. 69)	1,147.101
Radebaugh, on west end of box culvert, east leg of wye; square (P. R. R. 69a)	1,140.801

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	Feet.
Grapeville, 0.8 mile west of, in south end of box culvert; copper bolt (P. R. R. 70)	1,103.142
Grapeville, 300 feet east of station, on base course in west bay window of brick dwelling; square (P. R. R. 71)	1,059.554
Penn, 34 feet from center line, on stone monument opposite station; square (P. R. R. 72)	973.587
Penn, 0.58 mile west of, south side of rock cut, 120 feet east of retaining wall; square (P. R. R. 72a)	983.887
Manor, 0.28 mile east of, in east end of south parapet of Brush Creek bridge; copper bolt (P. R. R. 73)	947.168
Irwin, in west end of north back wall of Youghiogheny Railroad bridge; copper bolt (P. R. R. 76a)	879.102
Larimer, 0.58 mile west of, on retaining wall at north side; shelf (P. R. R. 77a)	862.164
Ardara, 600 feet west of, in west end of north parapet of Brush Creek bridge; copper bolt (P. R. R. 78)	835.556

PITTSBURGH QUADRANGLE.

Moss Side along Pennsylvania Railroad to Brinton.

Moss Side, 75 feet south of center line at station; square on stone monument (P. R. R. 81)	763.208
Wall, east side of station; square on stone monument (P. R. R. 82)	751.420
Turtle Creek, 625 feet east of, 33 feet south of center line of track; square (P. R. R. 84)	749.183
Brinton, 0.23 mile west of East Pittsburgh, shelf on pier of overhead bridge (P. R. R. 85)	752.144
Brinton, square on doorsill of station (P. R. R. 86)	756.654

Braddock along Pittsburgh division of Pennsylvania Railroad to Pittsburgh.

Hawkins, overhead bridge, capstone of southeast wing wall; copper bolt (P. R. R. 89)	886.42
Wilkinsburg, near, overhead bridge, capstone of southeast pier; square (P. R. R. 90)	923.84
Wilkinsburg, doorsill of station; copper bolt (P. R. R. 91)	923.18
East Liberty, Penn Avenue Bridge, southeast wing wall; shelf (P. R. R. 93)	912.36
Shadyside, overhead bridge, south abutment; shelf (P. R. R. 94)	851.35
Pittsburgh Junction, railroad bridge, north end of back wall, west abutment; copper bolt (P. R. R. 95)	818.25
Twenty-eighth Street, pier of bridge; shelf (P. R. R. 97)	758.41
Pittsburgh, pier of Seventeenth Street, at foot of incline; shelf (P. R. R. 98)	759.09
Pittsburgh, union station, west end of south abutment, Liberty Street undergrade bridge; copper bolt (P. R. R. 99)	757.97
Pittsburgh, Pennsylvania Avenue, Pennsylvania Co. office, southeast corner of building; shelf (P. R. R. 100)	743.932
Pittsburgh, city datum, above Pennsylvania Railroad datum	696.32

Birmingham along Monongahela division of Pennsylvania Railroad to Sunnyside distillery.

Birmingham, Brownsville Avenue Bridge, southwest bridge seat; copper bolt (P. R. R. 1)	762.76
Twelfth Street Bridge, northeast wing wall; shelf (P. R. R. 2)	792.92
Twenty-second Street Bridge, northwest bridge seat; copper bolt (P. R. R. 3)	792.50
Thirtieth Street Bridge, northeast bridge seat; copper bolt (P. R. R. 4)	780.15

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	Feet.
Beck's Run, east bridge seat of north abutment, west viaduct; copper bolt (P. R. R. 5)	765.93
Walton's coal incline, face of west pier; shelf (P. R. R. 6)	765.72
Hays, north pier, overhead bridge, Pittsburgh Southern Railroad; shelf (P. R. R. 7)	760.62
Howard, seventh step of southwest wing wall of railroad bridge; square (P. R. R. 8)	739.62
Homestead, water table, brick store, diagonally opposite station; shelf (P. R. R. 9)	760.76
Munhall, middle of north bridge seat, coal railroad; copper bolt (P. R. R. 10)	754.05
Green Spring, 500 feet north of, top of stone monument, opposite point of tangent; west side (P. R. R. 10a)	743.68
Port Perry bridge, west end of back wall, north abutment; copper bolt (P. R. R. 11)	763.70
Port Perry tunnel, ring stone at north end, east side; shelf (P. R. R. 12)	774.11
Oliver, 210 feet south of passenger station, east of railroad, on south end of stone doorsill of south building of double brick store; top (P. R. R. 13)	759.91
Oliver, 210 feet south of footbridge, retaining wall, west side; shelf (P. R. R. 14)	764.78
Cochran, Howard Plate Glass Co.'s office, on water table; shelf (P. R. R. 15)	759.60
Birmingham, 12.96 miles from, 20 feet east of center line of track, square on stone monument (P. R. R. 16)	748.57
Birmingham, 14 miles from, at milepost; square on stone monument (P. R. R. 17)	738.02
Camden, Allequippa tipple, north end of pier, east side of tracks; shelf (P. R. R. 18)	751.79
Coal Valley, south pier of bridge, west end; square (P. R. R. 20)	751.73
Peters Creek, southwest parapet of bridge 15; square (P. R. R. 21)	749.73
Clairton, north doorsill of passenger station; square (P. R. R. 22)	764.31
Clairton, 1,400 feet south of water plug, retaining wall; shelf (P. R. R. 23)	754.45
East Elizabeth, 200 feet south of, lower step in retaining wall, west side of track; square (P. R. R. 24)	750.10
Walton, northwest parapet of bridge 17; square (P. R. R. 25)	748.17
Sunnyside Distillery, doorsill of engine room; square (P. R. R. 26)	753.53

Scott Haven along Baltimore & Ohio Railroad to Sharpsburg.

Scott Haven, 0.25 mile southwest of, opposite milepost 300; section of rail set vertically be tween tracks (B. & O. 271)	764.725
Vista, opposite milepost 302; section of rail set vertically between tracks (B. & O. 273)	764.007
Shaner, 300 feet northeast of, opposite milepost 303; section of rail set vertically between tracks (B. & O. 274)	758.804
Guffey, in west end of bridge seat of north abutment of bridge 58; copper bolt (B. & O. 275)	753.332
Coulter, 0.8 mile east of, opposite milepost 305; section of rail set vertically between tracks (B. & O. 276)	753.598
Coulter, 0.25 mile north of, opposite milepost 306; section of rail set vertically between tracks (B. & O. 277)	752.637
Coulter, 1.25 miles northeast of, opposite milepost 307; section of rail set vertically between tracks (B. & O. 278)	752.548
Coulter, 2.25 miles north of, opposite section post 29/30; section of rail set vertically between tracks (B. & O. 279)	752.591
Versailles, 1.25 miles east of, opposite milepost 309; section of rail set vertically between tracks (B. & O. 280)	753.664

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	Feet.
Versailles, 0.5 mile southeast of, in east end of bridge seat of pier south of tracks of the overhead highway bridge; copper bolt (B. & O. 280A)	749.584
Versailles, in lower circle of masonry of turntable, opposite east approach; copper bolt (B. & O. 281)	747.920
Christy Park, 0.5 mile southeast of, opposite milepost 311; section of rail set vertically between tracks (B. & O. 282)	750.005
McKeesport, 1.2 miles south of, opposite milepost 312; section of rail set vertically between tracks (B. & O. 283)	749.917
McKeesport, 0.2 mile south of, opposite milepost 313; section of rail set vertically between tracks (B. & O. 284)	750.949
McKeesport, 0.8 mile east of, in north pedestal of overhead street-car bridge, 200 feet east of milepost 314; copper bolt (B. & O. 285)	750.063
Demmler, opposite milepost 315; section of rail set vertically between tracks (B. & O. 286)	750.475
Bessemer, 1.25 miles southeast of, at milepost 316, between main tracks; section of rail set vertically (B. & O. 287)	752.307
Bessemer, 0.6 mile southeast of, on bridge 63; in end of bridge seat; copper bolt (B. & O. 287A)	746.560
Bessemer, 100 feet southeast of, in west pedestal of bent north of tracks of Union Railroad overhead crossing; copper bolt (B. & O. 288)	752.360
Braddock, 0.25 mile southeast of, opposite milepost 318; section of rail set vertically between tracks (B. & O. 289)	749.016
Rankin, 100 feet northwest of, in north pedestal of bent for overhead bridge, 50 feet southwest of tracks; copper bolt (B. & O. 290)	754.522
Rankin, 0.9 mile northwest of, opposite milepost 320; section of rail set vertically between tracks (B. & O. 291)	751.902
Highland, 0.5 mile northeast of, opposite milepost 321; section of rail set vertically between tracks (B. & O. 292)	750.258
Highland, in northwest end of southwest pier of bridge 66; copper bolt (B. & O. 292A)	740.476
Wheeling Junction, in lower step of east end of concrete abutment of overhead bridge; copper bolt (B. & O. 293)	760.870
Glenwood, 0.8 mile north of, in north pedestal of bent overhead bridge; copper bolt (B. & O. 294)	770.144
Marion Junction, set between main tracks in southeast wall of small culvert; copper bolt (B. & O. 295)	765.778
Laughlin Junction, in bridge seat of northwest abutment of bridge 67, just northeast of tracks to Pittsburgh; copper bolt (B. & O. 296)	755.012
Pittsburgh, in southeast corner of bridge over Maurice Street, 1,000 feet west of milepost 326; copper bolt (B. & O. 297)	746.049
Pittsburgh, on pier of bridge directly under Brady Street Bridge, over river, in end of bridge seat; copper bolt (B. & O. 298)	749.278
Pittsburgh, in bridge seat, west abutment of railroad bridge over Second Avenue; copper bolt (B. & O. 299)	743.592
Pittsburgh, in southwest end of retaining wall, northwest side of tracks at southwest end of train shed; copper bolt (B. & O. 300)	747.117
Laughlin Junction, 0.3 mile north of, on viaduct bridge, in end of bridge seat; copper bolt (B. & O. 301)	767.737
Laughlin Junction, 1 mile north of, opposite milepost "Laughlin Junction 1"; section of rail set vertically between tracks (B. & O. 302)	817.360
Laughlin Junction, 1.8 miles north of, in foundation of portal of Pittsburgh Junction tunnel, east of tracks; copper bolt (B. & O. 303)	841.298
Laughlin Junction, 2.5 miles north of, east of tracks, in foundation at end of Pittsburgh Junction tunnel; copper bolt (B. & O. 304)	822.618

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	Feet.
Laughlin Junction, 2.8 miles north of, in south end of west abutment of Pennsylvania Railroad overhead bridge; copper bolt (B. & O. 305)	800.435
Pittsburgh, about 0.5 mile from Allegheny River, in west pedestal of first bent north of pier north of tracks of overhead highway bridge 33; copper bolt (B. & O. 306)	754.069
Lawrenceville, west end of south abutment of Thirty-third Street Bridge; shelf (P. R. R. 947)	784.123
Pittsburgh, in south end of east shore pier of Allegheny River Bridge; copper bolt (B. & O. 306A)	745.116
Pittsburgh, near, in northeast end of mud wall of southeast abutment of backwater bridge, Herrs Island; copper bolt (B. & O. 307)	743.539
Allegheny, 1.6 miles northeast of Baltimore & Ohio Railroad station, in southwest coping of northwest abutment of Thirtieth Street river bridge; copper bolt (B. & O. 308A)	732.988
Allegheny, 0.25 mile east of Baltimore & Ohio Railroad station, in west end of coping to retaining wall, Sixteenth Street river bridge; copper bolt (B. & O. 308B)	722.180
Allegheny, 600 feet west of the Baltimore & Ohio Railroad station, in northwest end of pier between railroad tracks of Eighth Street river bridge; copper bolt (B. & O. 308C)	717.520
Allegheny, 0.8 mile northwest of the Baltimore & Ohio Railroad station, in east end of north abutment of point bridge; copper bolt (B. & O. 308D)	725.411
Sharpsburg, 0.8 mile southwest of, in north end of west abutment of Pennsylvania Railroad bridge over Pine Creek (B. & O. 310 and P. R. R. 5, West Penn R. R.); copper bolt	733.032
Sharpsburg, 0.3 mile west of, in bridge seat between track on east abutment of bridge; copper bolt (B. & O. 310A)	726.872
Sharpsburg, set between tracks in bridge seat of east abutment of bridge 316; copper bolt (B. & O. 311)	730.502

NEW KENSINGTON QUADRANGLE.

Sharpsburg along Baltimore & Ohio Railroad to Downieville.

Sharpsburg, 0.6 mile northwest of, on bridge 318, in end of bridge seat; copper bolt (B. & O. 311A)	738.858
Sharpsburg, 1 mile northwest of, 30 feet north of north portal of Eetna tunnel, in rock; copper bolt (B. & O. 312)	757.347
Wittmer, 400 feet north of milepost 7; section of rail set vertically between tracks (B. & O. 313)	775.516
Mount Royal, in west end of bridge seat of north abutment of bridge; copper bolt (B. & O. 314A)	814.396
Allison Park, in west end of bridge seat of north abutment of highway bridge opposite station; copper bolt (B. & O. 316)	841.575
Allison Park, 0.6 mile north of, on bridge 323, in end of bridge seat; copper bolt (B. & O. 316A)	853.099
Allison Park, 1.5 miles northwest of, on bridge at telegraph pole 11/30, in left end of bridge seat of abutment farther from Allison Park; copper bolt (B. & O. 317)	872.396
Bryant, 0.25 mile north of, between tracks, in bridge seat of north abutment of bridge at telegraph pole 12/36; copper bolt (B. & O. 318)	892.813
Allegheny, 0.8 mile north of, on bridge 327, in end of bridge seat; copper bolt (B. & O. 318A)	902.511
Wildwood, 0.25 mile north of, in bridge seat of bridge; copper bolt (B. & O. 319A)	930.032

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	Feet.
Wildwood, about 1 mile north of, at telegraph pole 14/33, in end of bridge seat; copper bolt (B. & O. 320)	959.007
Wildwood, 2 miles north of, 100 feet north of milepost 16, in abutment of bridge or culvert; copper bolt (B. & O. 321)	1,003.402
Gibsonia, 0.25 mile north of, opposite telegraph pole 17/00; section of rail set vertically between tracks (B. & O. 322)	1,067.912
Bakerstown, 0.25 mile south of station, at telegraph pole 18/00; section of rail set vertically between tracks (B. & O. 323)	1,150.097
Bakerstown, 1 mile northwest of station, at telegraph pole 18/35, 800 feet northwest of northwest portal of Bakerstown tunnel; section of rail set vertically between tracks (B. & O. 324)	1,175.900
Valencia, 0.25 mile northwest of, at telegraph pole 20/00; section of rail set vertically between tracks (B. & O. 325)	1,103.954
Downieville, 0.25 mile south of, opposite telegraph pole 21/00; section of rail set vertically between tracks (B. & O. 326)	1,053.234
Downieville, 0.25 mile north of, on small bridge near telegraph pole 21/16; in abutment of bridge; copper bolt (B. & O. 326A)	1,035.969

Point near Pine Creek station along Pittsburgh branch and main line of Pennsylvania Railroad to point near Tarentum.

Etna, near station, northwest wing wall of county bridge; copper bolt (P. R. R. 6)	739.32
Sharpsburg, passenger station, capstone of foundation; shelf (P. R. R. 7)	742.17
Aspinwall, 0.5 mile east of, southeast wing wall of box culvert; square (P. R. R. 8)	739.95
Claremont, 0.5 mile west of, south end of Squaw Run arch; copper bolt (P. R. R. 9)	745.36
Claremont, wall at east gate of workhouse grounds; shelf (P. R. R. 10)	745.45
Montrose, 0.46 mile east of, northwest wing wall, coping of arch; copper bolt (P. R. R. 11)	738.23
Harmarville, 0.2 mile west of, north end of back wall, east abutment; copper bolt (P. R. R. 12)	741.20
Cheswick, 0.4 mile west of, base course, west end tannery, 14 feet from northwest corner; square (P. R. R. 13)	747.54
Springdale, wall of turntable pit, north side; copper bolt (P. R. R. 14)	750.16
Springdale, 0.3 mile east of, north parapet of county bridge; square (P. R. R. 14a)	755.66
Hite, 0.23 mile east of, southwest wing wall of county bridge; copper bolt (P. R. R. 15)	755.46
Tarentum, 0.28 mile west of, south end of Bull Run arch; copper bolt (P. R. R. 16)	752.34

SEWICKLEY QUADRANGLE.

Mars along Baltimore & Ohio Railroad to Callery Junction.

Mars, 800 feet southeast of, at telegraph pole 22/6, in abutment of bridge or culvert; copper bolt (B. & O. 327)	1,025.524
Mars, 0.8 mile northwest of, in northwest wing wall of box culvert at telegraph pole 23/5, at county road crossing; copper bolt (B. & O. 328)	1,003.703
Mars, 1.8 miles west of, opposite telegraph pole 24/00; section of rail set vertically between tracks (B. & O. 329)	988.449
Callery Junction, 0.5 mile southeast of, opposite telegraph pole 25/00; section of rail set vertically between tracks (B. & O. 330)	978.420
Callery Junction, 700 feet southeast of, in end of bridge seat of bridge; copper bolt (B. & O. 330A)	972.222

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ZELIENOPLE QUADRANGLE.

Callery along Baltimore & Ohio Railroad to Celia.

	Feet.
Callery Junction, 0.5 mile northwest of, in southwest end of bridge seat of southeast abutment of bridge 45; copper bolt (B. & O. 331)	970.160
Evans City, about 1 mile southeast of, set between tracks in mud wall of southeast abutment of bridge 45; copper bolt (B. & O. 332)	954.231
Evans City, in east end of abutment of county road bridge; copper bolt (B. & O. 333)	938.327
Evans City, 0.5 mile northwest of, at milepost 29, section of rail set vertically between tracks (B. & O. 334)	929.489
Evans City, 1.5 miles northwest of, opposite milepost 30; section of rail set vertically between tracks (B. & O. 335)	923.880
Evans City, 2 miles northwest of, set between tracks in bridge seat of northwest abutment of bridge at telegraph pole 30/9; copper bolt (B. & O. 335A)	913.680
Harmony Junction, 0.3 mile southeast of, opposite milepost 31; section of rail set vertically between tracks (B. & O. 336)	915.685
Harmony, 0.8 mile east of, opposite milepost 32, section of rail set vertically between tracks (B. & O. 337)	912.843
Harmony, west of, in first course of masonry at west end of north retaining wall; copper bolt (B. & O. 338)	915.344
Zelienople, 0.25 mile east of, at milepost 34; section of rail set vertically between tracks (B. & O. 339)	908.870
Zelienople, 0.8 mile southwest of, on small bridge at telegraph pole 34/26, in abutment of bridge; copper bolt (B. & O. 340)	897.374
Old Furnace, 100 feet west of, at milepost 36; section of rail set vertically between tracks (B. & O. 341)	899.848
Old Furnace, 0.5 mile northwest of, on undergrade crossing bridge; in abutment of bridge; copper bolt (B. & O. 341A)	891.109
Fombell, 1 mile east of, in north end of stone culvert at telegraph pole 36/33; copper bolt (B. & O. 342)	885.326
Fombell, on bridge 358, in abutment of bridge; copper bolt (B. & O. 343)	878.004
Goehring, at milepost 39; section of rail set vertically between tracks (B. & O. 344)	874.089
Celia, on bridge 360, telegraph pole 39/34, in end of bridge seat; copper bolt (B. & O. 345)	871.626

NEWCASTLE QUADRANGLE.

Hazen along Baltimore & Ohio Railroad to Mahoningtown.

Hazen, 0.3 mile west of, at milepost 41; section of rail set vertically between tracks (B. & O. 346)	866.924
McKimms, 0.5 mile southeast of, at milepost 42; section of rail set vertically between tracks (B. & O. 347)	867.328
McKimms, 0.5 mile northwest of, at milepost 43; section of rail set vertically between tracks (B. & O. 348)	866.748
North Sewickley, on bridge 362, in end of bridge seat; copper bolt (B. & O. 348A)	878.349
Ellwood, about 0.8 mile southeast of, between tracks in bridge seat of north abutment of bridge at south portal of Ellwood tunnel; copper bolt (B. & O. 349)	890.417
Ellwood City, 0.3 mile east of, under overhead highway bridge; section of rail set vertically between tracks (B. & O. 349A)	900.857

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	Feet.
Ellwood City, 0.5 mile west of, in south end of mud wall of west abutment of high bridge; copper bolt (B. & O. 350)	876.378
Rock Point, 0.2 mile north of, in rock northeast of track southeast of cut; copper bolt (B. & O. 351)	872.535
Rock Point, 1 mile north of, between tracks in mud wall of north abutment of bridge 365; copper bolt (B. & O. 352)	860.227
Chewton, 100 feet southeast of station, in northwest end of northeast coping of culvert; copper bolt (B. & O. 353)	847.887
Chewton, 1.5 miles northwest of, at old limekiln; section of rail set vertically between tracks (B. & O. 354)	818.769
Chewton, about 2 miles northwest of, undergrade crossing bridge 366, in abutment of bridge; copper bolt (B. & O. 355)	804.593
West Pittsburgh, in south end of bridge seat, east abutment of highway bridge over Pittsburgh & Lake Erie Railroad; copper bolt (B. & O. 356)	804.948
West Pittsburgh, 0.8 mile north of, on undergrade highway crossing bridge 369; in end of bridge seat; copper bolt (B. & O. 357)	800.169
New Castle Junction, about 0.25 mile northwest of, on Pittsburgh & Lake Erie Railroad bridge over Shenango River, in abutment of bridge; copper bolt (B. & O. 359)	793.183
New Castle, 0.5 mile northwest of, in concrete foundation of Pittsburgh & Lake Erie Railroad signal bridge, in more easterly of two northern pedestals of first bridge east of Mahoningtown; copper bolt (B. & O. 359A)	797.446
Mahoningtown, 0.5 mile northwest of, on first bridge signal west of Mahoningtown, in foundation; copper bolt (B. & O. 360)	789.823
Mahoningtown, 1.25 miles northwest of, on second signal northwest of Mahoningtown, in foundation; copper bolt (B. & O. 361)	786.902
Mahoningtown, about 2 miles northwest of, northwest of Pittsburgh & Lake Erie Railroad, through line station 2720, third signal northwest of Mahoningtown, in foundation; copper bolt (B. & O. 362)	787.371
Mahoningtown, 2.8 miles northwest of, west of Pittsburgh & Lake Erie Railroad, through line station 2760, fourth signal west of Mahoningtown, in foundation; copper bolt (B. & O. 363)	787.123
Mahoningtown, 3.6 miles northwest of, northwest of through line station 2800, fifth signal northwest of Mahoningtown, in foundation; copper bolt (B. & O. 364)	790.915

Ellwood along Baltimore & Ohio and Pennsylvania railroads to Beaver Falls.

West Ellwood Junction, about 0.5 mile north of, on spur line of Pittsburgh & Lake Erie Railroad to Ellwood City, on west abutment of bridge over Beaver River, in south end of back wall; surface within square (C. & G. S. No. A-2)	779.981
Summit, on Pennsylvania Railroad right of way, extreme northeast corner of the back wall to east abutment of bridge 40; the bridge number is anchored to the stone (C. & G. S. Br. 40)	1,047.956
Homewood, about 0.25 mile west of, on Pennsylvania Railroad right of way, top of northeast corner of east concrete bridge seat of bridge 39. Not marked. (C. & G. S. Br. 39 1906)	957.922
Homewood, on Pennsylvania Railroad right of way, northeast corner of east stone of the north coping of bridge 38. Not marked. (C. & G. S. Br. 38 1906)	951.900
Mayfield, on Pennsylvania Railroad right of way, on north end of east bridge seat of bridge 34; outlined square (C. & G. S. Br. 34)	858.840
Geneva, north of Pennsylvania Railroad tracks, on southeast corner of most eastern doorsill of station; surface within square (C. & G. S. Geneva Depot 1906)	828.799

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	Feet.
Beaver Falls, at Pennsylvania Railroad station, on northeast corner of door-sill of main entrance to waiting room; surface within square (C. & G. S. Beaver Falls Depot 1906)	789.237

NESHANNOCK QUADRANGLE.

Edenburg along Baltimore & Ohio Railroad to Ohio-Pennsylvania State line.

Edenburg, 0.5 mile east of, west of through line station 2840, in foundation of signal; copper bolt (B. & O. 365)	790.761
Edenburg, 0.5 mile west of, at through line station 2880, in foundation of signal; copper bolt (B. & O., 366)	794.027
Edenburg, 1.25 miles west of, near through line station 2920, in foundation of signal; copper bolt (B. & O. 367)	798.683
Edenburg, about 2 miles west of, near through line station 2960, in foundation of signal; copper bolt (B. & O., 368)	800.736
Edenburg, about 3 miles west of, near through line station 3000, in foundation of signal; copper bolt (B. & O., 369)	807.596
Edenburg, about 3.5 miles west of, about 2 miles east of Lowellville, near through line station 3040, in foundation of signal; copper bolt (B. & O. 370)	808.460
Edenburg, about 4.25 miles west of, about 1 mile east of Lowellville, near through line station 3080, in foundation of signal; copper bolt (B. & O. 371)	809.349

BEAVER QUADRANGLE.

Kenwood along Pennsylvania Railroad to Monaca.

Kenwood, about 1 mile east of Beaver Falls station, on northeast corner of east back wall of bridge 29; an outlined square marked "B. M." (C. & G. S. Br. 29)	749.376
New Brighton, on southeast corner of water table of Pennsylvania Railroad station; seat cut in beveled surface (C. & G. S. New Brighton Depot)	752.557
New Brighton, about 0.7 mile east of, on Pennsylvania Railroad right of way, at north end of east back wall of bridge 27½, over a public highway; outlined square marked "B. M." (C. & G. S. Br. 27½)	734.234
New Brighton, about 1.8 miles east of station, on northwest corner of east bridge seat of bridge 26; outlined square marked "B. M." (C. & G. S. Br. 26)	712.422
Monaca, on top step of southwest wing wall of Pittsburgh & Lake Erie Railroad bridge over Ohio River; seat cut in south face of stone, about 3 inches below the top surface, and marked "U. S. B. M." The bridge is assumed to be north and south. (C. & G. S. No. 25A)	753.734

FREEPORT QUADRANGLE.

West Penn Junction along Pennsylvania Railroad to Salina.

West Penn Junction, 0.8 mile east of, water station, foundation of tank; square (P. R. R. 27)	780.096
Bagdad, 0.9 mile west of, box culvert, south end; copper bolt (P. R. R. 28)	775.427
Bagdad, 0.87 mile east of, rock, south side; shelf (P. R. R. 29)	784.410
Leechburg, 0.9 mile west of, east abutment, south end of bridge seat; copper bolt (P. R. R. 30)	778.724
Leechburg, window sill of station; square (P. R. R. 31)	789.056
Leechburg, 0.5 mile east of, west abutment, north end of bridge seat; copper bolt (P. R. R. 32)	780.027

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	Feet.
Hyde Park, 1.2 miles east of, box culvert, south end; copper bolt (P. R. R. 33)	795.481
Vandegrift, 1.5 miles west of, southeast wing wall of bridge, east end; copper bolt (P. R. R. 34)	811.284
Vandegrift, on doorsill of baggage room; square (P. R. R. 35)	801.067
Vandegrift, 1.2 miles east of, box culvert, south end; copper bolt (P. R. R. 36)	798.209
Paulton, 0.8 mile west of, northeast, west pier of bridge; copper bolt (P. R. R. 37)	806.123
Paulton, 0.2 mile west of, county bridge, southeast wing wall; copper bolt (P. R. R. 38)	809.524
Paulton, 0.7 mile east of, south side of track, in rock; copper bolt (P. R. R. 39)	820.516
Roaring Run, 0.51 mile east of, rock, south side of track; copper bolt (P. R. R. 40)	826.588
Roaring Run, 0.49 mile east of, rock, south side of track; copper bolt (P. R. R. 41)	828.008
Salina, 1.1 miles west of, rock, south side of track; square (P. R. R. 42)	834.994

Point near Tarentum along Pittsburgh branch and main line of Pennsylvania Railroad to point near Bagdad.

Tarentum, 0.6 mile east of, south end of box culvert; copper bolt (P. R. R. 17)	760.58
Breckenridge, 0.2 mile west of, north end of box culvert; square (P. R. R. 18)	766.06
Natrona, 0.6 mile east of, south end of box culvert; square (P. R. R. 19)	767.38
Sligo, 0.4 mile west of, north side of track, in rock; copper bolt (P. R. R. 20)	770.21
Sligo, rock opposite station; square (P. R. R. 21)	767.94
Butler Junction, 0.7 mile west of, 40 feet south of center line, in rock; copper bolt (P. R. R. 22)	771.91
Butler Junction, 0.1 mile east of, west abutment, north end of back wall; copper bolt (P. R. R. 23)	765.79
Rye, bonded warehouse, northwest corner; square (P. R. R. 24)	777.82
Allegheny Valley Junction, 0.2 mile west of, west abutment, north end of bridge seat; copper bolt (P. R. R. 25)	783.25
Kiskiminetas Junction, south end of east abutment to Allegheny River bridge; copper bolt (P. R. R. 26)	783.25
Allegheny Valley Junction, 0.8 mile east of, water station, on foundation of tank; square (P. R. R. 27)	780.096

ELDERS RIDGE QUADRANGLE.

Salina along Pennsylvania Railroad to Edri.

Salina, 0.2 mile east of, east abutment, south end of bridge seat; copper bolt (P. R. R. 43)	830.267
Salina, 0.8 mile east of, west end of tunnel, north side, second course; shelf (P. R. R. 44)	844.768
Salina, 1.1 miles east of, east end of tunnel, north side, second course; shelf (P. R. R. 45)	844.109
Edri, 1.3 miles west of, rock on north side; copper bolt (P. R. R. 46)	840.951
Edri, 0.1 mile west of, west abutment, south end of bridge seat; copper bolt (P. R. R. 47)	834.534
Edri, 0.98 mile east of, 70 feet north of center line, on rock; square (P. R. R. 48)	841.506

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MILLERSBURG QUADRANGLE.

Millersburg along Pennsylvania Railroad to Herndon.

	Feet.
Millersburg, 1.2 miles south of, south end of retaining wall, east side of track, 1,140 feet south of milepost 111–27; shelf (P. R. R. 20)	394.485
Millersburg, near, coping, west end, on north pier of bridge 159; copper bolt (P. R. R. 21)	390.956
Millersburg, near, bridge 160, southwest wing wall; square (P. R. R. 22)	394.968
Liverpool, near, face of west abutment of overhead bridge 160a; shelf (P. R. R. 23)	398.650
Liverpool, rock, east of track opposite Liverpool station; copper bolt (P. R. R. 24)	395.931
Liverpool, 1.2 miles north of, rock at road crossing, 1,080 feet north of milepost 115–23; copper bolt (P. R. R. 25)	397.624
Liverpool, 1.9 miles north of, rock, east side of track, 300 feet south of milepost 116–22; copper bolt (P. R. R. 26)	401.835
Liverpool, 2.6 miles north of, rock, east side of track, 2,970 feet north of milepost 116–22; copper bolt (P. R. R. 26a)	403.197
Mahantago, 64 feet south of station, set stone, west side of track; square (P. R. R. 27)	401.567
Mahantago, near, bridge 162, face of southwest back wall; copper bolt (P. R. R. 28)	402.121
Georgetown, 2.6 miles south of, face of retaining wall, west side of track, 2,536 feet north of milepost 119–19; shelf (P. R. R. 29)	406.262
Georgetown, 2 miles south of, limestone rock, east side of track, 120 feet south of milepost 120–18; square (P. R. R. 30)	413.014
Georgetown, 1.1 miles south of, rock, east side of track, 300 feet south of milepost 121–17; copper bolt (P. R. R. 31)	415.515
Georgetown, 0.1 mile south of, east end of south abutment of open culvert, 480 feet south of milepost 122–16; copper bolt (P. R. R. 32)	410.717
Georgetown, near, bridge 165, west coping of stone arch; square (P. R. R. 32a)	414.648
Georgetown, 0.8 mile north of, northeast bridge seat of open culvert, 1,185 feet south of milepost 123–15; copper bolt (P. R. R. 33)	415.659
Georgetown, near, bridge 166, northwest wing wall; shelf (P. R. R. 34)	417.971
Herndon, 2 miles south of, rock cut, 10 feet north of milepost 125–13; shelf (P. R. R. 35)	419.924
Herndon, near, bridge 169, east coping, stone arch; copper bolt (P. R. R. 36)	419.715
Herndon, near, bridge 170, northeast wing wall of stone arch; copper bolt (P. R. R. 36a)	419.407
Herndon, set stone, immediately north of station; square (P. R. R. 37)	427.768
Herndon, bridge 171, southwest bridge seat; copper bolt (P. R. R. 38)	424.490
Herndon, 2 miles north of, red sandstone outcrop 78 feet north of milepost 129–9; copper bolt (P. R. R. 39)	431.162
Herndon, near, southeast abutment of bridge 172; copper bolt (P. R. R. 40)	431.484

SUNBURY QUADRANGLE.

Fishers Ferry along Pennsylvania Railroad to Montandon.

Fishers Ferry, west coping, box culvert; copper bolt (P. R. R. 41)	431.486
Selinsgrove Junction, near, rock, east side of track, 90 feet north of milepost 132–6; shelf (P. R. R. 42)	436.708
Selinsgrove Junction, rock, east side of track, 2,010 feet south of milepost 133–5; copper bolt (P. R. R. 43)	437.229

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	Feet.
Selinsgrove Junction, northeast bridge seat of bridge 21, Lewistown division; copper bolt (P. R. R. 44)	433.330
Selinsgrove Junction, near; bridge 176, southeast wing wall; copper bolt (P. R. R. 45)	436.172
Selinsgrove Junction, near, rock, east side of track, 510 feet north of milepost 135–3; copper bolt (P. R. R. 46)	441.075
Sunbury, near, rock, east side of track, 58 feet north of milepost 136–2; shelf (P. R. R. 47)	441.886
Sunbury, near, west end of south back wall of bridge 179; copper bolt (P. R. R. 48)	440.398
Sunbury, north end of foundation of water tank, south end of Sunbury yard; square (P. R. R. 49)	441.261
Sunbury, passenger station, doorsill of women's waiting room; copper bolt (P. R. R. 50)	444.700
Sunbury, near, southwest wing wall of bridge 164¾; square (P. R. R. 1)	444.472
Sunbury, near, foundation of roundhouse, north side; square (P. R. R. 2)	444.452
Northumberland, near, northeast wing wall of bridge 164; copper bolt (P. R. R. 3)	451.894
Northumberland, near, southeast wing wall of bridge 163; square (P. R. R. 4)	451.334
Northumberland, near, southwest wing wall of bridge 163; copper bolt (P. R. R. 5)	453.556
Northumberland, near, north end of arch culvert, 800 feet west of milepost 285–3; square (P. R. R. 6)	451.677
Northumberland, near, south end of east bridge seat of bridge 161; copper bolt (P. R. R. 7)	450.298
Kapps, near, back wall of culvert, 906 feet north of milepost 284–4, north side of track; shelf (P. R. R. 8)	454.589
Kapps, near, side wall of culvert, 510 feet west of milepost 283–5, north side of track; square (P. R. R. 9)	456.551
Kapps, near, capstone of pier of double box culvert, north side of track, 223 feet west of milepost 282–6; copper bolt (P. R. R. 10)	450.233
Montandon, near, southwest wing wall of bridge 160; copper bolt (P. R. R. 11)	451.345
Montandon, near, set stone at milepost 280–8, north side of track; square (P. R. R. 12)	452.657
Montandon, southeast wing wall of box culvert, 1,520 feet west of milepost 279–9; copper bolt (P. R. R. 13)	459.039
Montandon, north face of box culvert, 1,410 feet west of milepost 278–10; shelf (P. R. R. 14)	462.952
Montandon, near, northeast wing wall of bridge 159, second course; copper bolt (P. R. R. 15)	466.663

Bridge 21 along Lewistown division of Pennsylvania Railroad to point near milepost 16–34.

Bridge 21, northwest back wall; copper bolt (P. R. R. 1)	438.26
Bridge 20, southwest wing wall; shelf (P. R. R. 2)	437.28
Bridge 19, southwest wing wall; copper bolt (P. R. R. 3)	460.95
Milepost 8–42, 1,630 feet west of, northwest corner box culvert, square on stone (P. R. R. 4)	511.61
Milepost 9–41, 1,035 feet west of, southwest bridge seat culvert; copper bolt (P. R. R. 5)	561.19
Milepost 10–40, 250 feet east of, south face of box culvert; shelf (P. R. R. 6)	538.71
Milepost 11–39, 700 feet east of, south face of box culvert; shelf (P. R. R. 7)	497.34

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	Feet.
Bridge 17, southeast back wall; square (P. R. R. 8)	469.26
Kremer, northeast bridge seat of small bridge; copper bolt (P. R. R. 9)	471.57
Milepost 14-36, 1,845 feet east of, northeast bridge seat of small bridge; copper bolt (P. R. R. 10)	491.67
Milepost 15-35, 1,900 feet east of, northeast bridge seat of small bridge; copper bolt (P. R. R. 11)	485.38

MIFFLINBURG QUADRANGLE.

Point near milepost 16-34 along Lewistown division of Pennsylvania Railroad to bridge No. 7.

Milepost 16-34, 1,075 feet east of, southwest bridge seat of small bridge; copper bolt (P. R. R. 12)	488.06
Middleburg, southwest foundation of oil tank; shelf (P. R. R. 13)	507.36
Middleburg, south doorsill of Eagle Hotel; square (P. R. R. 13a)	514.59
Milepost 18-32, 1,170 feet east of, southwest bridge seat of open culvert; copper bolt (P. R. R. 14)	500.95
Milepost 19-31, 735 feet east of, southwest bridge seat of open culvert; copper bolt (P. R. R. 15)	501.32
Bridge 15, southwest back wall; copper bolt (P. R. R. 16)	509.55
Milepost 21-29, 1,250 feet east of, southwest bridge seat of open culvert; copper bolt (P. R. R. 17)	534.33
Milepost 22-28, 1,000 feet east of, northwest bridge seat of open culvert; copper bolt (P. R. R. 18)	582.97
Milepost 23-27, south side of track, square on set stone (P. R. R. 18a)	606.88
Bridge 13, northwest bridge seat; copper bolt (P. R. R. 19)	614.92
Beavertown, north end of foundation of storehouse opposite station; shelf (P. R. R. 20)	651.28
Milepost 26-24, 670 feet west of, south side of track; square on set stone (P. R. R. 21)	618.70
Bridge 9, northeast bridge seat; copper bolt (P. R. R. 22)	585.06
Bridge 8, shelf in northeast back wall; copper bolt (P. R. R. 23)	614.58

MILTON QUADRANGLE.

Dougal along Pennsylvania Railroad to point near Williamsport.

Dougal, set stone at milepost 276-12, north side of track; square (P. R. R. 16)	468.245
Milton, middle window sill of passenger station; square (P. R. R. 17)	476.317
Milton, near, west end of retaining wall, 2,460 feet east of milepost 274-14; shelf (P. R. R. 18)	473.338
Milton, near, north coping of stone arch, bridge 157; copper bolt (P. R. R. 19)	468.501
Watsontown, near, west side of wall culvert, 2,610 feet east of milepost 272-16, north side of track; square (P. R. R. 20)	469.932
Watsontown, near, back wall of culvert, 1,690 feet west of milepost 272-16, north side of track; shelf (P. R. R. 21)	471.174
Wastontown, opposite freight station, west end of doorsill of J. M. Montgomery's residence; square (P. R. R. 22)	486.055
Watsontown, west of station; east end of water tank foundation (P. R. R. 23)	484.505
Watsontown, near, northwest wing wall of bridge 155, second course; copper bolt (P. R. R. 24)	482.538
Dewart, near, northwest wing wall of stone arch, bridge 154; copper bolt (P. R. R. 25)	483.280
Dewart, near, rock, 2,135 feet east of milepost 267-21, north side of track; copper bolt (P. R. R. 26)	490.513
Montgomery, near, culvert, 408 feet west of milepost 266-22, south side of track; copper bolt (P. R. R. 27)	487.046

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	Feet.
Montgomery, near, northeast wing wall of bridge 153; copper bolt (P. R. R. 28)	489.468
Montgomery, near, northwest bridge seat of bridge 153; copper bolt (P. R. R. 29)	484.048
Montgomery, south end of east doorsill of Montgomery House; square (P. R. R. 30)	493.980
Montgomery, near, southwest bridge seat of bridge 151; copper bolt (P. R. R. 31)	491.662
Montgomery, near, south coping of stone arch, bridge 149; square (P. R. R. 32)	501.344
Muncy, near, north coping of stone arch, bridge 148; copper bolt (P. R. R. 33)	505.056
Muncy, near, northeast bridge seat of bridge 147; copper bolt (P. R. R. 34)	512.158
Muncy, near, culvert, 410 feet east of milepost 259–29, north side of track; shelf (P. R. R. 35)	513.620
Muncy, near, large rock, 955 feet east of milepost 258–30, 30 feet north of track; copper bolt (P. R. R. 36)	511.652
Muncy, near, back wall of culvert, 510 feet west of milepost 257–31, south side of track; square (P. R. R. 37)	515.835
Loyalsock, near, back wall of culvert, 1,443 feet west of milepost 256–32, south side of track; square (P. R. R. 38)	517.106
Loyalsock, near, back wall of culvert, 86 feet east of milepost 255–33, south side of track; shelf (P. R. R. 39)	518.508
Loyalsock, near, east end of retaining wall, 480 feet west of milepost 254–34, south side of track; copper bolt in shelf (P. R. R. 40)	516.250
Loyalsock, culvert, 75 feet east of milepost 253–35, north side of track; copper bolt (P. R. R. 41)	518.542
Loyalsock, near, back wall of culvert, 2,140 feet east of milepost 252–36, south side of track; copper bolt (P. R. R. 42)	519.054
Williamsport, near, northwest bridge seat of bridge 146; copper bolt (P. R. R. 43)	515.035
Williamsport, near, northeast bridge seat of bridge 145; copper bolt (P. R. R. 44)	522.707

WILLIAMSPORT QUADRANGLE.

At Williamsport.

Williamsport, near, northwest bridge seat of bridge 145; copper bolt (P. R. R. 45)	525.079
Williamsport, doorsill of brick dwelling, 314 Fourth Street, 450 feet west of milepost 249–3, south side of track; square (P. R. R. 45a)	522.481
Williamsport, north end of doorsill at east end of freight station; square (P. R. R. 46a)	528.242

Williamsport along Erie division of Pennsylvania Railroad to point near milepost 236–52.

Williamsport, south side of track, on foundation of R. P. Blackburn's Drug Store at Fourth and Green streets; shelf (P. R. R. 48)	530.61
Bridge 142, southeast back wall of, third course; copper bolt (P. R. R. 49)	525.09
Newberry, opposite station, north side of track, on foundation of fire engine house No. 5; shelf (P. R. R. 50)	530.06
Milepost 245–43, 175 feet west of, south side of track, on culvert; square (P. R. R. 51)	540.38
Bridge 140, northwest bridge seat; copper bolt (P. R. R. 52)	527.06
Fall Brook, overhead railroad bridge, north side of track; shelf on abutment (P. R. R. 53)	531.65

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	Feet.
Bridge 138, northeast bridge seat; copper bolt (P. R. R. 54)	530.27
Bridge 138, northwest bridge seat; copper bolt (P. R. R. 55)	530.11
Milepost 242–46, 80 feet west of, south side of track; square on culvert (P. R. R. 56)	525.99
Milepost 241–47, north side of track; square on set stone (P. R. R. 57)	531.14
Bridge 137, southeast wing wall of stone arch, second course; copper bolt (P. R. R. 58)	535.69
Milepost 239–49, 305 feet east of, south side of track, in rock; copper bolt (P. R. R. 59)	544.30
Milepost 238–50, 477 feet east of, south side of track, in rock; copper bolt (P. R. R. 60)	558.83
Milepost 238–50, 2,316 feet west of, south side of track; shelf on face of culvert (P. R. R. 61)	559.84
Milepost 237–51, 184 feet west of, south side of track; shelf on face of culvert (P. R. R. 62)	572.18

LOCK HAVEN QUADRANGLE.

Point near milepost 236–52 along Erie division of Pennsylvania Railroad to Lock Haven.

Milepost 236–52, 1,053 feet west of, north side of track, in rock; copper bolt (P. R. R. 63)	596.24
Bridge 136, coping of northeast wing wall of stone arch; copper bolt (P. R. R. 63a)	560.94
Milepost 235–53, 2,059 feet west of, in rock; shelf (P. R. R. 64)	572.12
Bridge 134, northwest wing wall of stone arch, second course; copper bolt (P. R. R. 65)	553.81
Milepost 233–55, 2,050 feet west of, south side of track, in rock; copper bolt (P. R. R. 66)	553.60
Bridge 133, southeast back wall; shelf (P. R. R. 67)	560.44
Bridge 132, southwest bridge seat; copper bolt (P. R. R. 68)	561.26
Overhead bridge of New York Central & Hudson River R. R., south side of track, retaining wall; shelf (P. R. R. 69)	560.95
Milepost 229–59, 2,442 feet west of, north side of track; square on set stone (P. R. R. 70)	565.97
Bridge 131, southeast bridge seat; copper bolt (P. R. R. 71)	561.13
Bridge 130, south side of track, in coping of stone arch; square (P. R. R. 72)	555.11
Milepost 226–62, east end of middle pier of water tank; square (P. R. R. 73)	569.06
Milepost 225–63, 220 feet west of, southeast wing wall of Bald Eagle Creek bridge, second course; copper bolt (P. R. R. 74)	557.94
Milepost 224–64, 170 feet west of, north side of track; square on set stone (P. R. R. 75)	553.63

Lock Haven along Bald Eagle Valley branch, Tyrone division, of Pennsylvania Railroad to point near milepost 50–5.

Lock Haven station, east window sill of women's waiting room; square (P. R. R., or bench mark No. 76, Erie division, Pennsylvania R. R.)	559.14
Bridge 50, at milepost 54–1, southwest bridge seat; copper bolt (P. R. R. 1)	552.46
Bridge 49, northwest wing wall; copper bolt (P. R. R. 2)	552.97
Bridge 47, south end of west pier, in coping; copper bolt (P. R. R. 3)	560.03
Mill Hall, southeast bridge seat of bridge 46; copper bolt (P. R. R. 4)	571.13
Bridge 44 over New York Central & Hudson River R. R., northwest wing wall of; copper bolt (P. R. R. 5)	590.22

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HOWARD QUADRANGLE.

Point near milepost 50-5 along Bald Eagle Valley branch, Tyrone division, of Pennsylvania Railroad to milepost 39-16.

	Feet.
Milepost 50-5, 1,210 feet west of, square on set stone; (P. R. R. 6)	595.32
Milepost 48-7, square on set stone (P. R. R. 7)	606.11
Bridge 43, northeast bridge seat; copper bolt (P. R. R. 8)	620.42
Beech Creek, near station, 120 feet west of milepost 46-9, in coping of culvert; copper bolt (P. R. R. 9)	608.01
Eagleville, southeast bridge seat of bridge 42; copper bolt (P. R. R. 10)	631.94
Milepost 43-12, 43 feet east of, south side of track; square on set stone (P. R. R. 11)	623.30
Milepost 42-13, 118 feet west of, north side of track; square on set stone (P. R. R. 12)	623.06
Milepost 41-14, south side of track; square on set stone (P. R. R. 13)	622.08
Bridge 41, southwest bridge seat of; copper bolt (P. R. R. 14)	646.61

MINGOVILLE QUADRANGLE.

Milepost 39-16 along Bald Eagle Valley branch, Tyrone division, of Pennsylvania Railroad to Curtain station.

Milepost 39-16, north side of track; square on set stone (P. R. R. 15)	663.31
Milepost 38-17, north side of track; square on set stone (P. R. R. 16)	675.42
Mount Eagle, milepost 37-18, 1,545 feet west of station, south side of track; square on set stone (P. R. R. 17)	661.52
Curtain, northwest foundation of water tank east of station; square (P. R. R. 18)	649.34

BELLEFONTE QUADRANGLE.

Curtain station along Bald Eagle Valley branch, Tyrone division, of Pennsylvania Rail road to milepost 16-39.

Bridge 40, northwest bridge seat; copper bolt (P. R. R. 19)	670.68
Bridge 37, northwest bridge seat; copper bolt (P. R. R. 20)	664.56
Bridge 36, southeast bridge seat; copper bolt (P. R. R. 21)	682.65
Milepost 31-24, 360 feet west of, southwest bridge seat of small bridge; copper bolt (P. R. R. 22)	697.-6
Milepost 31-2, 2,575 feet south of, west side of track, on limestone rock; shelf (P. R. R. 22a)	703.55
Milepost 33-0, 1,520 feet north of, east side of track, northwest bridge seat of county bridge; square (P. R. R. 22b)	721.81
Bellefonte, window sill of ticket office at station; shelf (P. R. R. 22c)	749.37
Bridge 34, northwest bridge seat; copper bolt (P. R. R. 23)	706.46
Snowshoe Intersection, southwest bridge seat of bridge 33; copper bolt (P. R. R. 24)	723.07
Bridge 31, southeast bridge seat; copper bolt (P. R. R. 25)	745.63
Bridge 30, southwest bridge seat of; copper bolt (P. R. R. 26)	761.86
Unionville, southeast bridge seat of bridge 27; copper bolt (P. R. R. 27)	771.87
Bridge 25, southwest bridge seat; copper bolt (P. R. R. 28)	797.37
Milepost 24-31, 770 feet east of, northeast bridge seat of small bridge; copper bolt (P. R. R. 29)	798.31
Bridge 24, northwest bridge seat; copper bolt (P. R. R. 30)	830.68
Julian, southeast bridge seat of bridge 23; copper bolt (P. R. R. 31)	848.10
Bridge 22, southwest bridge seat of; copper bolt (P. R. R. 32)	852.48
Bridge 21, northwest bridge seat; copper bolt (P. R. R. 33)	879.87
Bridge 19, northwest bridge seat of; copper bolt (P. R. R. 34)	901.18
Bridge 16, northeast wing wall of, second course; copper bo.t (P. R. R. 35)	920.93

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PHILIPSBURG QUADRANGLE.

Milepost 16-39 along Bald Eagle Valley branch, Tyrone division, of Pennsylvania Railroad to bridge 14.

	Feet.
Milepost 16–39, north side of track, on set stone; square (P. R. R. 36)	946.40
Milepost 15–40, 163 feet east of, north side of track, on set stone; square (P. R. R. 37)	973.60
Port Matilda, northwest foundation of water tank; shelf (P. R. R. 38)	1,004.22
Milepost 13–42, 326 feet west of, southwest bridge seat of open culvert; copper bolt (P. R. R. 39)	1,010.49
Milepost 12–43, 295 feet west of, northwest bridge seat of open culvert; copper bolt (P. R. R. 40)	1,031.12
Milepost 11–44, 138 feet west of, southwest bridge seat of open culvert; copper bolt (P. R. R. 41)	1,040.45
Bridge 15, in southeast bridge seat; copper bolt (P. R. R. 42)	1,065.62

WINDBER QUADRANGLE.

Eltonburg along South Fork branch, Pittsburgh division, of Pennsylvania Railroad to Babcock's Mill.

Junction Big Paint branch, east end of foundation of water tank; copper bolt (P. R. R. 6)	1,714.15
Scalp Level, Johnstown pike bridge, south end of pier; copper bolt (P. R. R. 7)	1,672.46
Windber, Seese Run bridge, east end of south abutment; copper bolt (P. R. R. 8)	1,692.93
Lovett, 13.75 miles from, rock at side of track; copper bolt (P. R. R. 9)	1,884.27
Lovett, 15.3 miles from, west end of box culvert; copper bolt (P. R. R. 10)	2,042.41
Babcock's Mill, southwest corner of boiler shop; copper bolt (P. R. R. 11)	2,101.71

FROSTBURG QUADRANGLE.

Near Cooks Mills.

Cooks Mills, 1.5 miles south of, between the tracks in bridge seat of east abutment of bridge 7; copper bolt (B. & O. 161A)	749.254

BERLIN QUADRANGLE.

Hoblitzell along Baltimore & Ohio Railroad to Foley.

Hoblitzell, 600 feet east of, in east end of south coping of culvert; copper bolt (B. & O. 170)	1,094.629
Hoblitzell, about 1 mile from, along line between Bedford and Somerset counties, in rock on north side of tracks, opposite watch box, about 500 feet west of milepost "Cumberland 17 miles;" copper bolt (B. & O. 171)	1,179.826
Williams, in bowlder on north side of tracks, about 500 feet west of milepost "Cumberland 18 miles;" copper bolt (B. & O. 172)	1,253.928
Fairhope, 0.5 mile east of, in rock on north side of tracks, about 200 feet east of milepost "Cumberland 19 miles;" copper bolt (B. & O. 173)	1,330.114
Fairhope, 0.8 mile west of, in rock on north side of track, 30 feet east of milepost "Cumberland 20 miles;" copper bolt (B. & O. 174)	1,401.409
Fairhope, 1.25 miles southwest of, between tracks in east abutment of bridge 17, Falls Cat Tunnel; copper bolt (B. & O. 174A)	1,443.721
Foley, 0.3 mile north of, in north end of east abutment of bridge 19A; copper bolt (B. & O. 175)	1,499.464
Foley, between tracks in east abutment of bridge 19B; copper bolt (B. & O. 176)	1,526.084

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Glencoe along Baltimore & Ohio Railroad to Keystone.

	Feet.
Glencoe, southwest corner of south end of east abutment of bridge 23 (B. & O. 177)	1,605. 333
Glencoe, 0.6 mile west of, in native rock, south side of track, 50 feet west of telegraph pole 201/35; copper bolt (B. & O. 178)	1,647. 681
Glencoe, 1.5 miles southwest of, between tracks, in mud wall of northeast abutment of bridge 25, 50 feet southwest of telegraph pole 202/25; copper bolt (B. & O. 179)	1,688. 664
Philson, opposite west end of station platform, in rock; copper bolt (B. & O. 180)	1,791. 480
Philson, 1.25 miles northwest of, south side of tracks, about 40 feet from tracks and about 40 feet west of watch box; copper bolt set in native rock (B. & O. 181)	1,884. 414
Philson, 2.5 miles northwest of, at telegraph pole 206/20; section of rail set vertically in ground (B. & O. 182)	1,987. 166
Mance, 1 mile southeast of, at telegraph pole 206/27, in rock; copper bolt (B. & O. 182A)	2,002. 546
Mance, 0.2 mile southeast of, opposite telegraph pole 207/26; section of rail set vertically in ground (B. & O. 183)	2,062. 859
Mance, 0.4 mile west of, near center of first cut west of station, nearly opposite end of cut on south side of tracks; copper bolt set in rock (B. & O. 184)	2,103. 250
Mance, 2 miles southwest of, in rock in place on southeast side of track, 125 feet northeast of northeast portal of Sand Patch tunnel; copper bolt (B. & O. 185)	2,219. 314
Sand Patch, 1 mile northeast of, in rock, at summit southwest end of Sand Patch Tunnel; copper bolt (B. & O. 186)	2,273. 947
Sand Patch, between first and second sidings, about 150 feet northeast of tower, 50 feet northeast of milepost 211; rail section (B. & O. 187)	2,254. 848
Keystone, 375 feet northwest of, in rock; copper bolt (B. & O. 188)	2,168. 250

MEYERSDALE QUADRANGLE.

Meyersdale along Baltimore & Ohio Railroad to Fort Hill.

Meyersdale, 1 mile southeast of, in rock, 30 feet east of telegraph pole 213/30; copper bolt (B. & O. 189)	2,106. 929
Meyersdale, on northeast side of tracks at southeast end of platform; vertical rail section (B. & O. 190)	2,053, 665
Salisbury Junction, 0.25 mile southeast of, opposite milepost 216; section of rail set vertically between tracks (B. & O. 191)	1,995. 151
Salisbury Junction, 0.8 mile northwest of, copper bolt in southwest end of mud wall, southeast abutment of bridge 26 (B. & O. 192)	1,943. 661
Garrett, 2 miles southeast of, opposite milepost 218; section of rail set vertically between tracks (B. & O. 193)	1,937. 578
Garrett, 0.8 mile southeast of, in southwest end of mud wall, southeast abutment of bridge 28; copper bolt (B. & O. 194)	1,930. 778
Garrett, 0.25 mile southeast of, in southwest end of southeast abutment of bridge 29; copper bolt (B. & O. 195)	1,928. 698
Garrett, 0.8 mile northwest of, on bridge 30, in bridge seat; copper bolt (B. & O. 196)	1,912. 820
Garrett, 1.5 miles northwest of, on bridge 34, in bridge seat; copper bolt (B. & O. 197)	1,893. 118
McSpadden, opposite tower; section of rail set vertically between tracks	1,868. 046
McSpadden, 0.8 mile northwest of, in large bowlder on north side of tracks; copper bolt (B. & O. 190)	1,858. 288

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	Feet.
Rockwood, 2 miles southeast of, set in southwest end of bridge seat of southeast abutment of bridge 32; copper bolt (B. & O. 200)	1,845.640
Rockwood, 0.8 mile southeast of, opposite milepost 226; top of rail section set vertically in ground between tracks (B. & O. 201)	1,827.043
Rockwood, 1.25 miles southwest of, in southeast end of mud wall of northeast abutment of bridge 35; copper bolt (B. & O. 203)	1,796.391
Rockwood, 2.25 miles southwest of, 125 feet west of milepost 229, in rock; copper bolt (B. & O. 204)	1,780.990
Casselman, 1 mile north of, between tracks in mud wall of northeast abutment of bridge 36; copper bolt (B. & O. 205)	1,763.469
Casselman, 500 feet southwest of station, in southeast corner of coping of culvert; copper bolt (B. & O. 206)	1,736.417
Casselman, 1.25 miles southwest of station, in southeast end of bridge seat of northeast abutment of bridge 38; copper bolt (B. & O. 207)	1,716.048
Markleton, 0.8 mile north of, opposite milepost 233; top of rail section set vertically in ground between tracks (B. & O. 208)	1,695.972
Markleton, near station; top of rail section set vertically in ground between tracks (B. & O. 209)	1,676.548
Pinkerton, in northeast pedestal of water tank; copper bolt (B. & O. 210)	1,640.226
Pinkerton, 1.6 miles southwest of, in foundation, northeast portal of Shoo Fly tunnel, southeast side of tracks; copper bolt (B. & O. 211)	1,608.204

CONFLUENCE QUADRANGLE.

Fort Hill along Baltimore & Ohio Railroad to Indian Creek.

Fort Hill, on east end of south coping of arch; shelf (B. & O. 212)	1,581.400
Fort Hill, 1.25 miles southwest of, in water shelf, east portal of Brook tunnel, south side of tracks; copper bolt (B. & O. 213)	1,549.186
Fort Hill, 2.25 miles west of, at side of track, at milepost 238; section of rail set vertically in ground (B. & O. 214)	1,502.319
Ursina, 0.2 mile northeast of station, in bowlder at milepost 239; copper bolt (B. & O. 215)	1,450.972
Confluence, 1.25 miles east of, at milepost 240, set in bowlder; copper bolt (B. & O. 216)	1,396.412
Confluence, in south end of east abutment of bridge 42; copper bolt (B. & O. 217)	1,331.989
Confluence, 1.5 miles northwest of, in southeast end of southwest coping of arch culvert 43; copper bolt (B. & O. 218)	1,321.738
Confluence, 2.6 miles northwest of, on culvert at tank 8, in abutment of culvert; copper bolt (B. & O. 219)	1,299.870
Bidwell, 1.2 miles southeast of, in rock about 100 feet southeast of milepost 247; copper bolt (B. & O. 220)	1,295.536
Bidwell, in east end of south coping of arch culvert 45; copper bolt (B. & O. 221)	1,285.686
Bidwell, 1 mile west of, at milepost 249; top of rail section set vertically in ground between tracks (B. & O. 222)	1,288.041
Sipes, 0.25 mile east of station, near milepost 250, in bowlder; copper bolt (B. & O. 223)	1,291.480
Sipes, 1.5 miles southwest of, in base of signal, 0.25 mile east of tower H. K; copper bolt (B. & O. 224)	1,260.544
Ohiopyle, 0.8 mile south of, on small culvert 0.8 mile northwest of tower H. K., in abutment of culvert; copper bolt (B. & O. 225)	1,231.233
Ohiopyle, 0.5 mile northeast of, in bowlder 200 feet southwest of borrow pit; copper bolt (B. & O. 226)	1,208.903

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	Feet.
Bear Run, 1 mile southeast of, in east end of masonry over 36-inch pipe culvert, 0.5 mile north of tank 9; copper bolt (B. & O. 227)	1,177.445
Bear Run, 400 feet northwest of station, in large rock on southwest side of tracks; copper bolt (B. & O. 228)	1,152.063
Bear Run, 1.25 miles northwest of, in small rock, west side of tracks, 0.3 mile north of milepost 257; copper bolt (B. & O. 229)	1,123.369
Stewarton, 0.5 mile south of, in rock on west side of tracks, 0.2 mile north of Yough tower and at beginning of first cut north of same; copper bolt (B. & O. 230)	1,095.714
Stewarton, 0.5 mile north of, in bowlder 50 feet north of watch box; copper bolt (B. & O. 231)	1,073.736
Stewarton, 1.5 miles north of, in bowlder 500 feet north of milepost 260; copper bolt (B. & O. 232)	1,045.427
Indian Creek, 1.5 miles southeast of, in bowlder 8 telegraph poles northwest of watch box; copper bolt (B. & O. 233)	1,017.280

UNIONTOWN QUADRANGLE.

Indian Creek along Baltimore & Ohio Railroad to South Connellsville.

Indian Creek, in abutment of on bridge 46; copper bolt (B. & O. 234)	969.062
Indian Creek, 1.2 miles west of, opposite milepost 264, in rock; copper bolt (B. & O. 235)	951.163
Indian Creek, 2.2 miles west of, 200 feet west of milepost 265, in rock; copper bolt (B. & O. 236)	940.452
Indian Creek, 3.2 miles west of, in small loose sandstone bowlder, north side of tracks, opposite milepost 266; copper bolt (B. & O. 237)	937.803
Indian Creek, 4.2 miles west of, one telegraph pole southeast of milepost 267, in rock; copper bolt (B. & O. 238)	918.928
South Connellsville, near, in south end of east abutment of new bridge, south of Connellsville yards; copper bolt (B. & O. 239)	910.387

Vance Mill Junction along Monongahela division of Pennsylvania Railroad to Uniontown.

Vance Mill Junction, 3,300 feet north of, northwest bridge seat of bridge No. 42; copper bolt (P. R. R. 74)	916.87
Vance Mill Junction, 700 feet south of, northwest back wall of bridge No. 43; copper bolt (P. R. R. 75)	929.13
Milepost 67, 2,600 feet north of, northwest wing wall of bridge No. 45; square (P. R. R. 76)	941.40
Walkers, 1,200 feet north of, southwest corner of box culvert; square (P. R. R. 77)	952.47
Redstone Junction, overhead railroad bridge, east end of first pier; square (P. R. R. 78)	964.35
Redstone Junction, 300 feet south of, northwest wing wall (S. W. P. Ry.); square (P. R. R. not numbered)	952.94
Uniontown, Adams Express Company's office, west window sill; square (P. R. R. not numbered)	985.81

CONNELLSVILLE QUADRANGLE.

Connellsville along Baltimore & Ohio Railroad to Smithton.

Connellsville, 0.2 mile north of roundhouse, on bridge 49, in abutment; copper bolt (B. & O. 240)	884.355
Connellsville, 0.3 mile northwest of, in northeast end of northwest end of bridge 51; copper bolt (B. & O. 241)	876.441
Connellsville, 1 mile northwest of, in northeast end of cement pier to overhead main bridge, on northwest side of tracks; copper bolt (B. & O. 242)	873.596

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	Feet.
Broadford, 0.5 mile southeast of branch intersection, at watch box; section of rail set vertically between tracks (B. & O. 243)	865.404
Broadford, in east corner stone of south abutment of overhead Pittsburg & Lake Erie Railroad bridge; copper bolt (B. & O. 244)	857.282
Broadford, 1.25 miles west of, opposite milepost 274; section of rail set vertically between tracks (B. & O. 245)	854.744
Broadford, 2.25 miles west of, opposite milepost 275; section of rail set vertically between tracks (B. & O. 246)	854.433
Dawson, 0.5 mile southeast of, in southwest end of bridge seat, southeast abutment of bridge 53; copper bolt (B. & O. 246A)	850.349
Dawson, 0.5 mile northwest of, in center of southwest coping of arch; copper bolt (B. & O. 247)	847.313
Dawson, about 2 miles northwest of, in south end of bridge seat of west abutment of bridge 54; copper bolt (B. & O. 248)	836.494
Dawson, 2.5 miles northwest of, at milepost 278; section of rail set vertically between tracks (B. & O. 249)	839.332
Lavenia, 0.6 mile east of station, opposite milepost 279; section of rail set vertically between tracks (B. & O. 250)	834.722
Lavenia, 100 feet southeast of station, in large rock on southwest side of tracks; copper bolt (B. & O. 251)	833.530
Layton, 1 mile southeast of, on northwest side of tracks, at stone and sand works, two telegraph poles southwest of milepost 282; point on large rock (B. & O. 253)	809.150
Layton, at milepost 283; section of rail set vertically between tracks (B. & O. 254)	805.506
Layton, 1 mile northwest of station, in southeast pedestal of water tank; copper bolt (B. & O. 255)	802.173
Layton, 2 miles northwest of, opposite milepost 285; section of rail set vertically between tracks (B. & O. 256)	792.326
Banning, 0.25 mile southwest of, opposite milepost 286; section of rail set vertically between tracks (B. & O. 257)	790.061
Jacobs Creek, 0.25 mile south of, in west end of mud wall of south abutment of bridge 55; copper bolt (B. & O. 258)	783.348
Eureka, about 1,000 feet south of, opposite milepost 288; section of rail set vertically between tracks (B. & O. 259)	777.576
Smithton, in south end of bridge seat of east abutment of highway bridge; copper bolt (B. & O. 260)	775.619

BROWNSVILLE QUADRANGLE.

Port Royal along Baltimore & Ohio Railroad to Suter.

Port Royal, 0.8 mile southeast of; section of rail set vertically between tracks (B. & O. 261)	777.368
Port Royal, 0.2 mile north of, opposite milepost 291; section of rail set vertically between tracks (B. & O. 262)	774.032
Reduction, 0.3 mile southwest of, opposite milepost 292; section of rail set vertically between tracks (B. & O. 263)	773.888
Reduction, 0.8 mile northeast of, opposite milepost 293; section of rail set vertically between tracks (B. & O. 264)	770.418
Griffin, in south end of east coping of arch culvert, 1,000 feet north of tank 14; copper bolt (B. & O. 264 A)	766.992
West Newton, 0.8 mile southeast of, opposite milepost 294; section of rail set vertically between tracks (B. & O. 265)	768.705
West Newton, 250 feet north of station, opposite milepost 295; section of rail set vertically between tracks (B. & O. 266)	767.049

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	Feet.
West Newton, near, in east side of lower circle of masonry of turntable; copper bolt (B. & O. 266A)	764.032
West Newton, 1 mile north of, opposite milepost 296; section of rail set vertically between tracks (B. & O. 267)	765.204
Gratztown, 0.1 mile east of, in south end of bridge seat of east abutment of twin bridges at milepost 297; copper bolt (B. & O. 268)	759.999
Gratztown, 1 mile west of, at milepost 298; section of rail set vertically between tracks (B. & O. 269)	765.262
Suter, in southwest end of bridge seat of northwest abutment of bridge 57; copper bolt (B. & O. 270)	761.368

Sunnyside Distillery along Monongahela division of Pennsylvania Railroad to Smock.

Shire Oaks, 300 feet south of, northeast corner of culvert; square (P. R. R. 27)	747.66
Coal Bluff, 300 feet south of, west end of box culvert; square (P. R. R. 28)	749.14
Huston Run, northeast corner of arch culvert; square (P. R. R. 29)	736.98
Courtney, north of, northwest bridge seat, bridge 19; square (P. R. R. 30)	762.46
Mingo Creek, bridge 20, northeast parapet; square (P. R. R. 31)	755.64
Riverview, 2,000 feet south of, northeast corner box culvert; square (P. R. R. 32)	750.56
Monongahela City, north of, northeast corner of bridge 21; square (P. R. R. 33)	745.52
Monongahela City, turntable; square (P. R. R. 34)	751.15
Monongahela City, south of, northwest back wall of bridge 22; square (P. R. R. 35)	759.70
Black Diamond, 400 feet south of, northeast corner arch culvert; square (P. R. R. 36)	752.85
Baird, northeast corner arch culvert; square (P. R. R. 37)	757.30
Tower W. F., 1,650 feet north of, east end box culvert; square (P. R. R. 38)	753.69
Donora, passenger station, north door sill; square (P. R. R. 39)	762.01
West Columbia, north end retaining wall; square (P. R. R. 40)	777.53
Bamford, 700 feet north of, northwest corner arch culvert; square (P. R. R. 41)	760.69
Lock No. 4, north of, southwest corner arch culvert at tower B. D.; square (P. R. R. 42)	747.72
Lock No. 4, at station, east end of box culvert; square (P. R. R. 43)	761.97
Charleroi, 500 feet north of station, west side of track, pier of overhead bridge; square (P. R. R. 44)	761.27
Charleroi, south of, northwest parapet of bridge 25 over Maple Creek; square (P. R. R. 45)	759.47
Belle Vernon, north of, northwest bridge seat of bridge 25½; square (P. R. R. 46)	760.56
Belle Vernon, south of, southeast bridge seat of bridge 26; square (P. R. R. 47)	761.10
Milepost 43, 100 feet south of, southwest corner of arch culvert; square (P. R. R. 48)	756.10
Allenport, 900 feet north of, northeast corner of arch culvert; square (P. R. R. 49)	758.47
Stockdale, Acme Mine tipple, north end of middle pier; square (P. R. R. 50)	763.78
Lucyville, 1,000 feet north of, west end of box culvert; square (P. R. R. 51)	767.26
Wood Run, 500 feet north of, northeast corner of arch culvert; square (P. R. R. 52)	751.79
Milepost 47, northeast back wall of bridge; square (P. R. R. 53)	767.42

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	Feet.
Coal Center, north of, northwest back wall of bridge 27; square (P. R. R. 54).	779.98
Coal Centre, south of, northwest parapet of bridge 28; square (P. R. R. 55).	766.71
California, northwest back wall bridge 29; square (P. R. R. 56)	767.49
Tower F. I., 2,000 feet south of, northeast corner box culvert; square (P. R. R. 57)	769.10
Tower G. X., 2,000 feet south of, northwest corner arch culvert; square (P. R. R. 58)	760.64
Bridge 30, Monongahela River, north abutment, east end of bridge seat; square (P. R. R. 59)	778.17
Bridge 30, Monongahela River, south abutment, east wing wall, second step from top; square (P. R. R. 60)	778.21
Brownsville Junction, 4,000 feet south of, bridge 31, northwest back wall; square (P. R. R. 61)	772.48
Braznell, 3,000 feet north of station, northwest back wall bridge 33; square (P. R. R. 62)	787.93
Milepost 55, 500 feet north of, east parapet of stone arch culvert; square (P. R. R. 63)	802.62
Grindstone Mine tipple, north side, doorsill of small stone building; square (P. R. R. 64)	824.60
Milepost 57, 1,400 feet north of, northwest corner of bridge 34; square (P. R. R. 65)	826.20
Tippecanoe, northwest corner of bridge 35; square (P. R. R. 66)	853.40
Tippecanoe, 2,600 feet south of, retaining wall at northwest corner of bridge 36, at undergrade crossing; square (P. R. R. 67)	869.19
Smock, 3,000 feet north of, northwest bridge seat; square (P. R. R. 68)	866.22
Smock, 1,000 feet south of, northwest corner box culvert; square (P. R. R. 69)	878.53

MASONTOWN QUADRANGLE.

Rothruck along Monongahela division of Pennsylvania Railroad to Vance Mill Junction.

Rothruck, north of, northwest back wall of bridge 38; square (P. R. R. 70)	890.86
Waltersburg, south of, northwest back wall of bridge 39; copper bolt (P. R. R. 71)	903.88
Upper Middletown, 0.6 mile north of, northwest corner of bridge 41; square (P. R. R. 72)	908.80
Upper Middletown, 200 feet north of, west parapet of arch culvert; square (P. R. R. 73)	911.57

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APPENDIX B.

SECONDARY ELEVATIONS.

Secondary elevations from records and topographic maps of the United States Geological Survey, including altitudes of well-known summits, water-surface elevations of prominent lakes, and other useful elevations, are given below. These elevations are approximate and should not be used for accurate work.

Locality.	Quadrangle.	County.	Elevation.
			Feet.
Academy Corners	Elkland	Tioga	1,217
Adamsburg	Greensburg	Westmoreland	1,178
Ambler	Germantown	Montgomery	199
Amsbry	Patton	Cambria	1,710
Angstadt Hill	Reading	Berks	940
Ashland Mountain	Catawissa	Schuylkill	1,741
Bad Mountain	Pittston	Lackawanna	2,223
Banian Junction	Houtzdale	Clearfield	1,342
Barlow Hill	Elkland	Tioga	1,773
Bears Head	Mahanoy	Schuylkill	2,100
Beaver Springs	Millerstown	Snyder	585
Belsano	Barnesboro	Cambria	1,828
Bernville	Wernersville	Berks	317
Bessemer	Newcastle	Lawrence	1,090
Big Flat triangulation station	Fairfield	Adams	2,057
Big Lick Mountain	Lykens	Schuylkill	1,769
Big Mountain	Catawissa	Columbia	1,843
Big Savage Mountain	Frostburg	Somerset	2,389
Big Shiney Mountain	Scranton	Lackawanna	2,320
Birdville	Freeport	Allegheny	1,017
Blue Knob (Union Township, the highest point in the State thus far determined).	Ebensburg	Bedford	3,136
Bly triangulation station	Tioga	Tioga	2,344
Bolling Springs	Carlisle	Cumberland	435
Bonneauville	Gettysburg	Adams	561
Boquet	Greensburg	Westmoreland	1,107
Broad Mountain	Hazleton	Carbon	1,832
Brownsdale	Butler	Butler	1,159
Brunnerville	Lancaster	Lancaster	526
Buck Mountain	Mahanoy	Columbia, Luzerne	1,920
Bulger	Burgettstown	Washington	1,155
Butts triangulation station	Tioga	Tioga	1,583
Campbell Ledge	Pittston	Luzerne	1,364
Candor	Burgettstown	Washington	1,138
Catawissa Mountain	Catawissa	Columbia	1,941
Cedarville	Phoenixville	Chester	258
Ceylon	Masontown	Greene	960
Chatham Valley	Elkland	Tioga	1,323
Cherryhill	Girard	Erie	915
Chestnut Hill	Gettysburg	Adams	985
Clearview triangulation station	Greensburg	Westmoreland	1,332
Clintonville	Hilliards	Venango	1,435
Clover Creek	Hollidaysburg	Blair	1,305
Coal Mountain	Lykens	Dauphin	1,640
Coal Run Junction	Houtzdale	Clearfield	1,470
Cochranville	Coatesville	Chester	599
Coleman Hill triangulation station	Indiana	Indiana	1,658
Conneaut Lake, water surface	Linesville	Crawford	1,072
Connoquenessing	Zelienople	Butler	1,293
Cornwall	Burlington	Bucks	39
Cowanesque	Elkland	Tioga	1,290

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Locality.	Quadrangle.	County.	Elevation.
			Feet.
Cranesville	Girard	Erie	944
Cross Creek	Burgettstown	Washington	1,290
Croydon	Burlington	Bucks	31
Culps Hill	Gettysburg	Adams	633
Curllsville	Clarion	Clarion	1,208
Davis triangulation station	Elkland	Tioga	2,334
Deer Path Hill	Reading	Berks	1,080
Delmont	Greensburg	Westmoreland	1,266
Devon	Norristown	Chester	466
Dolington	Lambertville	Bucks	260
Dunning triangulation station	Everett	Bedford	2,512
East Freedom	Hollidaysburg	Blair	1,014
East Springfield	Girard	Erie	741
Eldersville	Burgettstown	Washington	1,316
Elk Hill, North Knob	Dundaff	Susquehanna	2,684
Elmer	Gaines	Potter	1,512
Elton	Johnstown	Cambria	2,064
Evans Hill triangulation station	Indiana	Indiana	1,842
Evitt Mountain	Flintstone	Bedford	2,313
Fairmount City	Clarion	Clarion	1,069
Faun Grove	Belair	York	730
Fayetteville	Neshannock	Lawrence	1,074
Five Points	Burgettstown	Washington	1,206
Fort Loudon	Mercersburg	Franklin	641
Fort Washington	Germantown	Montgomery	170
Frogtown	Clarion	Clarion	1,350
Fulton Knob	Uniontown	Fayette	2,670
Gearhartville	Houtzdale	Clearfield	1,689
Glenora	Foxburg	Butler	1,433
Glenside	Germantown	Montgomery	259
Government triangulation station	Everett	Bedford	1,858
Graceton	Indiana	Indiana	1,060
Granite Hill	Gettysburg	Adams	726
Grapeville	Greensburg	Westmoreland	1,249
Greenfield	Neshannock	Mercer	1,281
Green Mountain	Mahanoy	Schuylkill	1,867
Harlansburg	Mercer	Lawrence	1,143
Harmonsburg	Linesville	Crawford	1,127
Hartstown	Linesville	Crawford	1,044
Harvey Lake, water surface	Harvey Lake	Luzerne	1,226
Harveys	Rogersville	Greene	1,092
Hatboro	Germantown	Montgomery	229
Henderson	Stoneboro	Mercer	1,493
Hexenkopf Hill	Allentown	Northampton	1,030
Hillsdale	Punxsutawney	Indiana	1,637
Hillsville	Neshannock	Lawrence	1,118
Honeybrook	Honeybrook	Chester	689
Hooker	Butler	Butler	1,410
Hortons	Punxsutawney	Indiana	1,887
Hunterstown	Gettysburg	Adams	554
Jefferson Center	Butler	Butler	1,135
Karns	Kittanning	Butler	1,214
Keeneyville	Elkland	Tioga	1,203
Kellysburg	Indiana	Indiana	1,213
Kinter Hill, Palmer triangulation station	Punxsutawney	Indiana	2,068
Kinton Knob	Bedford	Bedford	2,642
Krepp Knob triangulation station	Brownsville	Washington	1,311
Krumsville	Hamburg	Berks	757
Kunkle Hill triangulation station	Indiana	Indiana	1,468
Lamartine	Foxburg	Armstrong	1,431
Lampeter	Quarryville	Lancaster	408
Lander	Warren	Warren	1,572
Lehman	Harvey Lake	Luzerne	1,308
Lemaster	Mercersburg	Franklin	575
Lewisberry	New Cumberland	York	426
Limerick	Phœnixville	Montgomery	296
Lincoln	New Holland	Lancaster	464
Lincoln University	Coatesville	Chester	554
Line Mountain	Lykens	Northumberland	1,618
Little Mountain	Catawissa	Columbia	1,785
Little Round Top	Gettysburg	Adams	670
Locust Mountain	Mahanoy	Schuylkill	1,661
Long Mountain	Carlisle	Cumberland	1,570
Lumber City	Curwensville	Clearfield	1,229
Lundys Lane	Girard	Erie	950
Lytle triangulation station	Hollidaysburg	Bedford Blair	2,225

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Locality.	Quadrangle.	County.	Elevation.
			Feet.
Mahanoy Mountain	Shamokin	Northumberland	1,745
Manchester	Middletown	York	491
Manheim	Lancaster	Lancaster	398
Marchand	Smicksburg	Indiana	1,559
Marlasville	Foxburg	Armstrong	1,373
Marion	Chambersburg	Franklin	636
Markle	Freeport	Westmoreland	1,145
Mars	Sewickley	Butler	1,043
Martin Mountain	Flintstone	Bedford	1,927
Marwood	Butler	Butler	1,222
Masontown	Masontown	Fayette	1,008
Mastersonville	Lancaster	Lancaster	490
Mauch Chunk Ridge	Hazleton	Schuylkill	1,674
Maytown	Middletown	Lancaster	402
Merrittstown	Masontown	Fayette	948
Miller Mountain	Pittston	Wyoming	2,227
Millersville	Lancaster	Lancaster	384
Monterey	Emmitsburg	Franklin	1,335
Moosic Mountain	Scranton	Lackawanna	2,120
Morton	Chester	Delaware	138
Mount Airy	Foxburg	Armstrong	1,432
Mount Airy	New Holland	Lancaster	850
Mount Pisgah	Scranton	Luzerne	1,940
Mountville	Lancaster	Lancaster	440
Mount Wheeler triangulation station	Amity	Washington	1,523
Mummasburg	Fairfield	Adams	615
Negro Mountain triangulation station	Grantsville	Somerset	2,966
Nescopeck Mountain	Catawissa	Columbia	1,663
New Bedford	Youngstown	Lawrence	1,146
Newberrytown	New Cumberland	York	632
Newchester	Gettysburg	Adams	534
New Danville	McCall Ferry	Lancaster	408
New Derry	Latrobe	Westmoreland	1,280
New Freedom	Parkton	York	830
New Geneva	Masontown	Fayette	938
New Lebanon	Stoneboro	Mercer	1,401
New London	Coatesville	Chester	472
New Salem	Masontown	Fayette	1,079
New Washington	Curwensville	Clearfield	1,705
Nicktown	Barnesboro	Cambria	1,967
North Pond, water surface	Harvey Lake	Luzerne	1,335
North Springfield	Girard	Erie	665
North Washington	Freeport	Westmoreland	1,281
Nowreytown	Elders Spring	Indiana	1,205
Oakland	Rural Valley	Armstrong	1,436
Osceola	Elkland	Tioga	1,150
Parkers Landing	Foxburg	Armstrong	1,156
Penns Park	Lambertville	Bucks	353
Perkiomen Junction (Pennsylvania Railroad)	Norristown	Chester	109
Pigeon Hills	Gettysburg	Adams	1,046
Pigeon Hills triangulation station	Bedford	Bedford	1,684
Pine Flats	Barnesboro	Indiana	1,543
Pleasantville (Alumbank post office)	Bedford	Bedford	1,229
Pocahontas	Frostburg	Somerset	2,660
Pondfield triangulation station	Uniontown	Fayette	2,778
Potter Brook	Gaines	Tioga	1,470
Putneyville	Rural Valley	Armstrong	940
Quincy	Chambersburg	Franklin	700
Rarick triangulation station	Tioga	Tioga	2,284
Rawlinsville	McCall Ferry	Lancaster	891
Rich Hill	Brownsville	Fayette	1,377
Rimersburg	Clarion	Clarion	1,389
Ringgold	Smicksburg	Jefferson	1,523
Rohrerstown	Lancaster	Lancaster	359
Roscoe	Brownsville	Washington	767
Round Hill	Gettysburg	Adams	843
Round Top	Elkland	Tioga	2,030
Round Top triangulation station	Gettysburg	Adams	785
Royersford	Phoenixville	Montgomery	238
Russell Hill, B oadview triangulation station	Elders Ridge	Indiana	1,556
Sagamore	Smicksburg	Armstrong	1,127
Sandy Lake, water surface	Stoneboro	Mercer	1,158
Scenery Hill	Amity	Washington	1,486
Seemsville	Allentown	Northampton	660
Shady Grove	Chambersburg	Franklin	767
Sharp Mountain	Mahanoy	Schuylkill	1,489

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Locality.	Quadrangle.	County.	Elevation.
			Feet.
Sheppler Hill triangulation station	Brownsville	Westmoreland	1,416
Sheridan	Wernersville	Lebanon	456
Sinking Spring	do	Berks	355
Smithfield	Masontown	Fayette	1,149
Smith Mill	Houtzdale	Clearfield	1,542
South Bend	Elders Ridge	Armstrong	977
South Pond, water surface	Harvey Lake	Luzerne	1,205
Springboro	Girard	Crawford	942
Springdale	New Kensington	Allegheny	819
Spring Mountain	Hazleton	Carbon	1,847
Springville	Carlisle	Cumberland	504
Squirrel Hill	Clarion	Clarion	1,529
Stiles triangulation station	Gaines	Tioga	2,389
Stokesdale Junction	Elkland	do	1,170
Stony Run	Hamburg	Berks	663
Strasburg	Quarryville	Lancaster	483
Strongs Hill	Indiana	Indiana	1,860
Stouchsburg	Wernersville	Berks	424
Strattonville	Clarion	Clarion	1,485
Swede Hill	Greensburg	Westmoreland	1,189
Tannery	Gaines	Potter	1,573
Three Cornered Pond, water surface	Harvey Lake	Luzerne	1,205
Trough Creek	Huntingdon	Huntingdon	1,169
Turkey Knob triangulation station	Masontown	Greene	1,482
Tussey Mountain	Hollidaysburg	Bedford / Blair	2,225
Tussey triangulation station	Everett	Bedford	2,541
Unionville	Butler	Butler	1,313
Do	West Chester	Chester	446
Venice	Carnegie	Washington	1,019
Vinco	Johnstown	Cambria	1,722
Wallaceton	Houtzdale	Clearfield	1,722
Warner Hill triangulation station	Indiana	Indiana	1,647
Warrior Ridge	Everett	Bedford	2,452
Wellsville	New Cumberland	York	528
Wentlings Corners	Foxburg	Armstrong	1,451
Westgrove	Coatesville	Chester	354
West Sunbury	Hilliards	Butler	1,385
Whitely	Waynesburg	Greene	966
Whitesburg	Elders Ridge	Armstrong	1,329
Willet	Indiana	Indiana	1,085
Williams Grove	Houtzdale	Clearfield	1,661
Willow Grove	Germantown	Montgomery	259
Willow Grove triangulation station	do	do	411
Wind Ridge	Rogersville	Greene	1,432
Wolf Hill	Gettysburg	Adams	660
Worthington	Kittanning	Armstrong	1,120

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